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ABSTRACT

This book provides a multitude of strategies that uncover students' greatest strengths and learning styles, while improving literacy skills. It offers activities that are organized according to Howard Gardner's multiple intelligences theory. The book is divided into eight sections, each addressing one of the intelligences identified by Gardner (verbal/linguistic, musical/rhythmic, logical/mathematical, visual/spatial, bodily/kinesthetic, intrapersonal, interpersonal, naturalist); each section begins with a discussion of the intelligence at hand, followed by a series of activities that promote literacy through the employment of that particular intelligence. The book offers teachers a variety of strategies to support students at all levels as they acquire knowledge in the areas of reading, thinking, writing, speaking, and listening. (NKA)

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GIFT OF LITERACY

for the
MULTIPLE INTELLIGENCES CLASSROOM

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Evelyn Williams English

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GIFT OF LITERACY

for the

MULTIPLE
INTELLIGENCES
CLASSROOM

Evelyn Williams English

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Gift of Literacy for the Multiple Intelligences Classroom

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In loving memory of my sister,
Johnie Mae Williams Drew; she knew the
key to becoming a lifelong learner and
living a productive life is reflection,
reading, thinking, writing, speaking,
and listening —that is, literacy.

ACKNOWLEDGMENTS

The ability to reason logically, communicate effectively, and problem solve is the goal of education. The heart of *Gift of Literacy for the Multiple Intelligences Classroom* is the presentation of multiple approaches to learning for a lifetime.

In my search for an understanding about literacy, I have been guided by the work of a cadre of creative and resourceful pioneers: teachers and families in Red Bird and Tulsa, Oklahoma; Frank T. Lyman and colleagues at the Maryland Center for Thinking Studies and at NABSE (National Association of Black School Educators); the Howard County (Maryland) Public Schools; Robert Hillerich; Sylvester Gibson; Geoffrey Caine and Renate Caine; Howard Gardner; Dorothy Strickland; Lev Vygotsky; Robert Swartz; David Perkins; Robert Sternberg; Robert Ennis; and many others.

I offer my appreciation to my mentors and collaborators at SkyLight Training and Publishing and in learning communities throughout the United States and Europe.

Thank you! to my loving, talented, inquisitive, and cooperative home team: Johnnie and Jettie Williams; my *first* students: my brothers, sister, nieces, and nephews. Thanks to my son, Brandon, my daughter, Taunya, and my granddaughter, Jaelyn English. Also thanks to Elizabeth Hedgebeth and Lenice Puryear. You make this greatly needed resource possible. Special thanks to Jim Bellanca for his foreword.

In our information-saturated era, when the morning's facts are the afternoon's artifacts, our students must be able to problem solve, reflect, and communicate effectively.

I am indebted to all of you.

—Evelyn Williams English

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FOREWORD

Critics of Howard Gardner love to point out that he provides "practiceless" theory. Some go so far as to blame his theory of multiple intelligences for all the failures of schooling in the last decade.

Evelyn English's understanding of the distinction between theory and practice shows in this book the value of Gardner's theory of multiple intelligences as well as his desire to leave practice to the practitioners.

In this book, a gift to teachers as well as to students, Evelyn brings her many years of effective classroom practice, her solid and balanced understanding of the research on reading instruction, and her knowledge of the reading challenge. Within the framework of Gardner's theories, she connects her experience, her understanding, and her knowledge. The result? A powerful and practical collection of strategies that meet the diverse learning needs of students who require more than worksheets to become skillful readers.

The teaching of reading and literacy in general requires more than a single methodology. It requires skilled instruction, a knowledge of the different approaches needed to push and pull different students, and it requires a rich framework that helps each reader, from novice to master, develop not only skills, but the love of literacy. Evelyn's *Gift of Literacy for the Multiple Intelligences Classroom* provides all these gifts.

—James Bellanca

INTRODUCTION

Educate minds not just memories! As we move into an age of information we will have to recognize that our relationship to information is changing. No longer is success going to be measured by who can memorize most. (Hay 1983, 10)

Gift of Literacy for the Multiple Intelligences Classroom is a resource designed to help educators integrate multiple intelligences theory and literacy instruction in the classroom. This innovative compilation offers teachers a variety of strategies and activities that will support students at all levels as they acquire and apply knowledge in the areas of reading, thinking, writing, speaking, and listening.

Literacy, the ability to read, write, and problem solve, is a term that has had varying implications throughout history. In the late nineteenth century, individuals were considered literate if they could read and write their names. Today, as we enter the twenty-first century, literate individuals must be able to comprehend and interpret information and apply complex, critical, and creative thinking techniques to reading, writing, and problem-solving.

1983 Teacher of the Year, LeRoy Hay, quoted above, maintains that the parameters of literacy continue to expand as we enter the twenty-first century. If students are to flourish in this changing society, educators must teach the skills of literacy in a lasting, useful, and substantive manner. Schools must move beyond teaching for recall to teaching specific strategies for understanding and interpreting information, as well as encouraging the development of critical thinking skills in their students.

THE MULTIPLE INTELLIGENCES (MI) THEORY

The activities found in this practical resource propose strategies for improving the literacy learning process. The activities are organized according to intelligences identified by psychologist Howard Gardner's theory of multiple intelligences (1983). By 1995, Gardner had identified eight intelligences that every individual possesses in varying degrees. Regarding the multiple intelligences (MI) theory, he comments:

> To my mind, a human intellectual competence must entail a set of skills of problem solving—enabling the individual *to resolve genuine problems or difficulties* that he or she encounters and, when appropriate, to create an effective product—and must entail the potential for *finding or creating problems*—thereby laying the groundwork for acquisition of new knowledge (Gardner 1983, 60).

Gardner's MI theory differs from other intelligence theories because it stresses that intelligence can be substantially developed by cultural influences. The implications of MI theory for teachers is the knowledge that they can nurture learning, thinking, and problem-solving abilities in each and every one of their students. MI theory suggests that any individual who is taught in a manner that incorporates his or her own predominant intelligence(s) will come to learn, understand, and apply knowledge more effectively. The literacy activities in *Gift of Literacy for the Multiple Intelligences Classroom* embody all eight of Gardner's intelligences. These lessons are meant to help educators uncover and utilize their students' greatest strengths and most comfortable learning styles, while improving their reading, thinking, writing, speaking, and listening skills (literacy skills).

The eight intelligences that Gardner has identified are briefly described below. A more thorough discussion of each individual intelligence is located at the beginning of each section in *Gift of Literacy for the Multiple Intelligences Classroom.*

Verbal/linguistic is the intelligence of words and, more broadly, communication. This intelligences describes the ability to use language clearly through reading, writing, listening, and speaking.

Logical/mathematical is the intelligence of numbers and reasoning. This intelligence characterizes the ability to use inductive and deductive reasoning, solve abstract problems, and understand cause-effect relationships.

Visual/spatial is the intelligence of pictures and images. This intelligence refers to the capacity to perceive the visual world accurately and to then recreate one's visual knowledge.

Bodily/kinesthetic is the intelligence of the whole body; including the hands. This intelligence characterizes the ability to control and interpret one's own body motions, and to manipulate and establish harmony between the body and mind.

Musical/rhythmic is the intelligence of tone, rhythm, pitch, and timbre. This intelligence describes the degree of sensitivity to patterns of sound and the ability to respond emotionally to music.

Intrapersonal is the intelligence of self-knowledge. This intelligence characterizes the ability to understand oneself and assume responsibility for one's own self-concept, actions, emotions, and behavior.

Interpersonal is the intelligence of social understanding. This intelligence refers to the ability to relate to others by reading the moods, temperaments, motivations, and intentions of others.

Naturalist is the intelligence related to the natural world. This intelligence comes from the ability to recognize, understand, and classify plants, animals, and other elements in one's environment.

OTHER INSTRUCTIONAL STRATEGIES USED IN THIS BOOK

Critical questioning is a constructive technique that is useful in most any learning situation. As such, the critical questioning approach is integrated in the activities in *Gift of Literacy for the Multiple Intelligences Classroom.* Research has shown that when educators use "good questions" orally or in writing with their students, they arouse interest, assess learner preparation, diagnose students' academic strengths and needs, and encourage critical thinking skills.

The best questions are broad-based and open-ended. Critical questions elicit a variety of responses and are probably the highest-level questions we can ask. They encourage thinking on many levels, value learners' background knowledge and experiences, and allow them to go beyond the text in making meaning.

Educators can use the critical questioning techniques presented in this book to effectively strengthen higher-level thinking skills, encourage discussion and debate, and reinforce metacognition—thinking about thinking. In that regard, a unique feature of the activities in this book is the Metacognitive Opener, suggestions for preparing students for a given activity that prompt reflection and create a productive atmosphere in which the activity can be done. In general, developing metacognitive abilities is important in creating literate individuals who know when and how to use problem-solving strategies.

Cooperative learning is an instructional approach that integrates social skills and academic achievement. According to Frank Lyman, formerly of the Maryland Center for Thinking Studies, when teachers pair or assemble students according to pre-planned groupings and give appropriate collaborative assignments, they allow students the opportunity to interact with peers, to teach and learn from their classmates, to generate new ideas, and to further communication in the classroom (1987). Cooperative learning activities can also enhance students' exposure to cultural experiences and establish the whole class as a community, thus making the classroom a better environment for learning.

The social skills of teamwork, negotiating, and problem solving also are vital skills for students to develop and bring to their future places of work. Cooperative learning naturally utilizes the multiple intelligences. In collaborative projects, students have the opportunity to employ their particular styles and strengths toward the group's completion of a multifaceted project. The cooperative learning activities in this book encourage the skills of reading, thinking, writing, speaking, and listening as students work together toward a common goal.

The activities in *Gift of Literacy for the Multiple Intelligences Classroom* also incorporate a critical thinking strategy or classification system called Bloom's Taxonomy. Educator and theorist Benjamin Bloom analyzed the thinking process and various levels of cognition. The six levels in this taxonomy, beginning with the least and ending with most complex (higher-order) thinking skill, are as follows:

1. *Knowledge*: Students learn information.
2. *Comprehension*: Students understand information.
3. *Application*: Students use information.

4. *Analysis*: Students break information into its component parts.
5. *Synthesis*: Students put information together in new and different ways.
6. *Evaluation*: Students judge the information.

The learning activities in this book promote the use of all of Bloom's taxonomy levels, with a stress on higher-level thinking skills.

HOW THE BOOK IS ORGANIZED

Gift of Literacy for the Multiple Intelligences Classroom is divided into eight sections, each addressing one of the eight intelligences identified by Gardner. Every section in this comprehensive resource begins with a discussion of the intelligence at hand, followed by a series of flexibly designed activities that promote literacy through the employment of that particular intelligence. It is important to point out, however, that many of the activities lend themselves to more than one intelligence.

Every activity in this book includes the following elements:

- Purpose—aim of the activity
- What You'll Need—special materials that will be necessary
- Metacognitive Opener—suggestions for preparing students for the activity and to think critically about the purpose of the activity
- What to Do—step-by-step directions for the activity
- Meeting the Needs of Diverse Learners—suggestions for dealing with varying ability levels of students in terms of the activity
- Reflections—opportunities for reflective thinking and writing about the activity, such as in a journal or in a homework assignment.

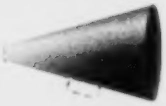
For activities that include vocabulary words that are technical or that may be unfamiliar to students, a **Working Vocabulary** list is provided. Some of the learning activities also include the features **Instructional Tip** and **Optional Technology**. Instructional Tips offer educators hints for elaborating on a particular concept within an activity or special suggestions to ensure the activity will run smoothly.

Optional Technology offers suggestions on how to incorporate technology, such as computers, the Internet, or a videotape camera, into selected lessons.

The activities in *Gift of Literacy for the Multiple Intelligences Classroom* may be used with all types of learners and are flexible enough to be customized to many teaching situations. With adjustments in the level of difficulty and complexity, these activities can be used for students from kindergarten through high school. These activities are flexibly designed so they may be used by teachers with diverse student populations. The activities fit into a variety of programs and curricula. Although literacy/language skills are targeted in this book, the multiple intelligences approach makes these activities easy to integrate into other academic areas and, indeed, makes this book a useful tool for all teachers.

SECTION ONE

VERBAL/ LINGUISTIC



Verbal/Linguistic Intelligence

. . . is the ability to use with clarity the core operations of language. The predominant aspects of this intelligence are communication through reading, writing, listening, and speaking with key literacy skills. The ability to link new knowledge to prior experiences is also an important component of this intelligence.

Individuals who are proficient in verbal/linguistic intelligence are able to form and recognize words and patterns by sight, sound, and in some cases touch. Those who are strong in this intelligence are able to produce and refine language and use its many forms and formats.

In the classroom, verbal/linguistic intelligence is stimulated through storytelling, debating, speech making, and play acting. Reading and responding to a variety of texts, as well as writing essays, stories, letters, and jokes also utilize this intelligence. To activate verbal/linguistic intelligence, as with every intelligence, teachers should also encourage students to draw connections between past experiences and new knowledge. This strategy, often referred to as *transfer*, helps learners better relate to and understand new ideas and information.

The verbal/linguistic-focused lessons in this section offer educators a way to inspire and employ the properties of this intelligence in the classroom. These lessons will provide opportunities for learners to practice and polish verbal/linguistic communication skills through activities in reading, thinking, writing, listening, and speaking.

1

READING FOR THE MAIN IDEA

ACTIVITY-AT-A-GLANCE

Purpose

Use strategic reading methods to determine main ideas in literature.

What You'll Need

☐ A selection of nursery rhymes
☐ A variety of headlines from the newspaper

Metacognitive Opener

Ask students to consider how they determine what the main idea of a story is. Explain that the main idea of a paragraph, story, or newspaper article is the writer's message to the reader. The main idea may summarize a central idea or bring up or answer a specific question. Explain that students will begin by uncovering the main ideas in several nursery rhymes.

What to Do

1. Examine a series of headlines from the newspaper and discuss how they connect to the main ideas of the articles.
2. Select a nursery rhyme, such as "Jack Be Nimble" or "Jack and Jill," and make sure all students have a copy. Select a student to read the rhyme aloud. Next, invite students to close their eyes and visualize the rhyme as another student reads the rhyme aloud again.

3. Guide students in detecting the rhyme's main idea and then creating a headline that emphasizes this idea. For example, for the "Jack Be Nimble" rhyme, the headline/main idea could be "Boy takes a daring leap." "Jack and Jill" could inspire a headline/main idea of "Couple involved in an accident."
4. Have students create their own headlines for the other nursery rhymes.
5. Invite students to share their work with the class. Ask listeners to critique, compare, and comment on the work that is shared.
6. Review Reading Strategies: A Checklist for Success with students (see blacklines section).

Meeting the Needs of Diverse Learners

Ask the learners to read a news article and write its main idea. Students may illustrate the main idea, create a collage that reflects it, or create a nursery rhyme with the same theme.

Reflections

1. Have learners ask a family member to share with them a favorite nursery rhyme. Together they can create a headline/main idea for the rhyme.
2. Have learners read one new nursery rhyme and write a headline/main idea, then illustrate this piece and share it with a younger sibling or friend.

2

READING BETWEEN THE LINES

ACTIVITY-AT-A-GLANCE

Purpose

Identify and use literary techniques employed by authors to help readers understand reading material.

Working Vocabulary

point of view
flashback
figurative language
mood
symbolism
sensory language
foreshadowing
characterization

What You'll Need

☐ Teacher-selected short story

Metacognitive Opener

Ask students if they ever take note of hidden or non-obvious ideas in a story. Explain that authors sometimes subtly hint at the theme or main idea in a story. Writers use literary techniques to help the reader understand a story more thoroughly. Review the key literary devices listed in the Working Vocabulary list. (Refer to Literary Devices in the blacklines section.) Then have students locate as many examples as they can of these devices in the reading selection.

2

What to Do

1. Discuss each literary technique or device. Allow students to give examples of each.
2. Give the learners a copy of the teacher-selected short story. Place students in small groups and have them work cooperatively to locate two or three of the devices. In groups, have the students discuss the devices they find and how they help a reader interpret information.
3. Allow each group time to present their findings to the class.

Meeting the Needs of Diverse Learners

1. Have learners research, read, and add to the list of literary devices discussed in class.
2. Share and explain new literary devices you wish to add to the list.
3. Have learners read a teacher-selected piece and report on their appreciation of the literature and information learned through the use of the literary devices.
4. Invite students to create a hidden word search (puzzle game) featuring literary terms for the class to complete, ideal for identifying such literary devices and conveying the idea that these devices are not always easily detectable.

Reflections

Have students write a sequel to the story they have read, adding at least one literary device not included in the original.

3

QUESTIONING WHILE READING

ACTIVITY-AT-A-GLANCE

Purpose

Use questioning while reading to understand and to demonstrate comprehension of a narrative.

What You'll Need

- ☐ Teacher-selected stories

Metacognitive Opener

Ask students if they ever ask themselves questions about a story as they read. Explain that to best understand a narrative text, readers will use critical and creative questioning strategies. Mention that short stories, biographies, and folktales are all narratives. Our focus for the lesson is questioning while reading.

What to Do

1. Review the Think Trix Question Guide and Think Trix Question Starters (see the blacklines section) so students can be prepared to ask meaningful questions and respond effectively.
2. Choose a narrative as an example. Ask a question about that story and then answer it based on the story.
3. Distribute the teacher-selected narrative and have students read silently using their Think Trix strategies to note their questions about the text of the selection, the title, and the illustrations.

4. Have the learners share some of their questions and responses with the class. Encourage them to move away from asking simple, yes-or-no questions.

Meeting the Needs of Diverse Learners

Group the learners in teams and have them listen to another brief teacher-selected story. Have students work cooperatively to develop questions about the story and then write and respond to those questions.

Reflections

Identify examples of figurative language, such as symbolism and foreshadowing, used in a story. Have learners prepare and share their responses with the class. Refer to Picture This (see the blacklines section) to prompt reflection in reading journals.

4

STORYTELLING

ACTIVITY-AT-A-GLANCE

Purpose

Use critical and creative thinking to develop speaking skills and enhance listening comprehension. Students visualize and connect verbal/linguistic intelligence with many other intelligences.

Working Vocabulary

improvise
ad lib
parody
dialogue
yarn spinners

What You'll Need

☐ Teacher-selected story

Metacognitive Opener

Ask students to consider what makes someone good at telling jokes or stories. Explain that centuries ago, before books, TV, or newspapers, people gathered to hear storytellers ("yarn spinners") recite stories. Prepare the class to practice the ancient art of storytelling. Note that traditionally storytellers acted as oral historians and most employed many of the dramatic techniques used by actors.

What to Do

1. Discuss the following storytelling (and story making) techniques with your students:

   - Improvise. Ad lib a dialogue in a situation with a partner, such as the experience of being stuck in an elevator. Invent, recite, or do something spontaneous and unplanned. Story writers—as well as actors, dancers, and other performers—often use improvisation as a creative technique.
   - Talk to music. Play some instrumental music (without lyrics). Close your eyes and move your body to the music. Say things that come to mind as you move, until you're talking nonstop. The words don't have to make sense! Try classical music, jazz, and music from unfamiliar cultures.
   - Become a machine. Be a can opener (solo), an alarm clock (duet), or a chain saw (group). Use sounds and motions.
   - Do an impression or a parody. Choose a serious or a humorous imitation, pretending to be a famous person. Stand in front of the mirror and talk for five minutes straight, as though you're that person. (Don't pause. Don't be shy. Pretend you're a chatterbox.)
   - Tape your improvisations. Record some short narratives, monologues, or dialogues, using different voices. Pretend these scenes are recorded messages on a telephone answering machine. Listen to the tape. What works and what doesn't?

2. Choose a story that your students are familiar with, and as an example, discuss how the storytelling techniques listed could be used in retelling the selected reading.
3. Brainstorm the qualities that make storytellers as well as actors and performance artists effective communicators. Encourage students to use these ideas when telling a story.
4. Group or pair students and have them retell the story using one of the story making ideas.
5. Have students practice and then tell their story to the class, using a technique of their choice.

Meeting the Needs of Diverse Learners

1. Have students research the origins of the many terms or names for storytellers in different cultures (i.e., the griots in the West African tradition).

2. Have students create or locate appropriate art to complement one of the stories shared with the class.

OPTIONAL TECHNOLOGY Have students refine their stories and make audio- or videotapes of their story performances.

Reflections

Have students talk with older family members about their family histories. If the learners uncover favorite family stories (appropriate for retelling in class, of course), encourage them to share the stories with the class in written/oral form.

5

READING FOR FUN

ACTIVITY-AT-A-GLANCE

Purpose

Encourage reading for pleasure while using critical and creative reading, thinking, writing, speaking, and listening skills.

What You'll Need

☐ Videocassettes
☐ Audio and video equipment
☐ Teacher-selected story

Metacognitive Opener

Ask students if they ever visualize or imagine parts of a story as they read. Explain that imagining and visualizing, while fun activities, also play a major part in understanding the selection. Say that today we are going to learn more about imagining and visualizing. Prepare the class to use special techniques for visualizing, such as drawing a picture of a scene from a selected story, that will help them monitor their own reading comprehension as they read for enjoyment.

What to Do

1. Ask students what materials they read for pleasure and discuss.
2. Read a teacher-selected story to the class. Have learners write comments and questions about the story and complete responses to the following:
   - The word(s) that helped me to see pictures in my mind during the story were ______________________________.

- The most colorful characters were ____________________ because they ____________________________.
- The story ending looked like ________________ because ______________________________________.

3. Have students sketch or draw their responses to the same questions and allow volunteers to share their drawings with the class. Have some of the learners share and explain their responses to the teacher-selected story.
4. Try the following technique with your students to encourage development of verbal description skills:
    - Bring to class a specially selected bag of objects and tell the learners they are going to play a visualizing and imagining game. Have the learners reach in the bag, then select, describe, and identify the object without removing it from the bag.
5. Select a colorful short story appropriate for your students and read it aloud. Have students jot down ideas for retelling the story visually.
6. Have students use the reading material of their choice, as approved, to create and deliver a presentation for the class.

Meeting the Needs of Diverse Learners

1. Have learners read a fable and create a visual to retell the story.
2. Assign individuals to create visuals that reflect various chapters in a work of fiction. Compile the chapters to make a complete visual representation of the book.

TIP

INSTRUCTIONAL TIP Allow students class time to read for fun, that is to read materials of their choice (pre-approved), during class time on a regular basis, perhaps once a week.

OPTIONAL TECHNOLOGY Have the learners watch a teacher-selected animated cartoon available on videotape. Have students take notice of the words that are used with the images on the cartoon. Have students identify and explain some of these picture/word relationships.

5

Reflections

1. Have learners try number 4 in the What to Do list at home, working with the aid of a parent or guardian.
2. Encourage students to make a list of their favorite books and reading materials and share these choices with classmates and younger siblings or friends. You may recommend books, such as Newbery-award winning books. Many school and local public libraries have a list of Newbery winners available in the children's section.

6

BALANCING ACT

ACTIVITY-AT-A-GLANCE

Purpose

Examine phonemes and use them to build words and vocabulary for reading, thinking, writing, listening, and speaking.

Working Vocabulary

phonemes
phonics
alliteration

What You'll Need

☐ Reading materials (teacher selected) from other classes

Metacognitive Opener

Ask students if they ever think consciously about sounds as they read. Explain phonemes and phonics. Simply put, phonemes are letter sounds and phonics are letter names. For example the word "cat" has three phonemes; the teacher should make the sounds for c/a/t. Using the same letters, the student can learn phonics as they write *cat*. The teacher should write the letters to emphasize the difference: Phonemes are sounds, and phonics are written letter symbols.

6

What to Do

1. Have learners consider the following list of words:
    - cat
    - brick
    - dog

   Have students work with partners, and direct them to listen carefully as the teacher reads the word(s) aloud. Have students repeat each word for their partner and write one word that begins with the same sound.
2. Have students write two additional words for each example shared.
3. Explain alliteration, the repetition of consonant sounds, to the class. Recite a few alliterative phrases and sentences, such as *Sam and Sally saw sea shells at the seashore.*
4. Guide learners as they write their own alliterative phrases for each of the words above.

Meeting the Needs of Diverse Learners

1. Have students scan a page from a book they are reading for another class. Ask them to locate and write five words that begin with the same consonant sound chosen by the teacher.
2. Have students use a dictionary or thesaurus to locate and write a synonym, homonym, and/or an antonym for each word.

OPTIONAL TECHNOLOGY Have students audiotape themselves reciting their own alliterative phrases and then listen as the recitations are played back.

Reflections

Have students work with a partner to create a dictionary of alliterative phrases from A to Z.

1

USING A READING RESPONSE JOURNAL

ACTIVITY-AT-A-GLANCE

Purpose

Respond in writing to literature on a personal level.

Working Vocabulary

- point of view
- flashback
- figurative language
- mood
- symbolism
- sensory language
- foreshadowing
- characterization

What You'll Need

- ☐ Notebooks that can serve as reading journals for the class (You may assign students to supply their own journals at this time.)
- ☐ Teacher-selected literary selection

Metacognitive Opener

Ask students to think of a movie that they had a strong reaction to and then consider how they expressed this reaction. Explain that personal writing is a positive way to learn, develop, and enrich reading and other experiences. Journaling helps readers imagine, visualize, and further explore ideas that they encounter through reading.

What to Do

1. Encourage learners to use their imaginations as they begin a reading journal to record their responses and reflections.
2. Get them started by discussing the Why Keep a Reading Journal? form (see the blacklines section).
3. Read aloud a teacher-selected literary selection and have students write their personal reactions to the material. Explain that there is not a right or wrong response when you're journaling. Everyone's response to literature is valid in its own right.
4. Review with learners and brainstorm ideas for organizing a reading journal. You may wish to have your students bring their reading journals to class each day.

Meeting the Needs of Diverse Learners

1. Allow class time for students to decorate and personalize their reading journals.
2. Have students share with classmates how an idea they read was clarified by reflecting in their journals.

OPTIONAL TECHNOLOGY Suggest to learners that they may tape their oral responses to literature as an option to a written journal, or they may keep their journals on computer, if the equipment is available.

Reflections

1. Have learners share information learned about journaling with their family members.
2. Have students research/discuss individuals who became famous because of the personal journals or diaries they created (i.e., Anne Frank).

8

BEING CRITICAL OF ADVERTISING

ACTIVITY-AT-A-GLANCE

Purpose

Learn, practice, and develop skills for critical listening and thinking.

Working Vocabulary

bandwagon
testimonial
emotional words
repetition

What You'll Need

☐ Print ads from newspapers or magazines
☐ Commercials videotaped from TV

Metacognitive Opener

Ask students what types of advertising devices convince them to buy something. Explain that better listening skills lead to better communication. It is important that individuals be savvy, critical listeners and thinkers to avoid being taken in by tactics used in political campaigns and in advertising in general.

What to Do

1. Review and discuss the persuasive techniques listed on page 19. For example, explain that saying "C'mon, everyone is doing it" is a bandwagon technique.
2. Lead learners in a discussion of how to listen and think critically when viewing, reading, and listening to media communication.
3. Group learners into critical listening teams.
4. Using five print ads for each group, have group members identify any persuasive techniques used to sell.
5. Watch and evaluate selected TV commercials to identify persuasive techniques.
6. For the next class period, have student groups create and dramatize their own commercials while classmates identify the persuasive techniques being used.

Meeting the Needs of Diverse Learners

Have students act out an actual commercial that uses a familiar persuasive technique.

OPTIONAL TECHNOLOGY Videotape your students' dramatizations of commercials for future use and to compile a media literacy portfolio for the class.

Reflections

Determine the different genres of TV programs and compare the commercials and persuasive techniques used during different types of shows.

SECTION TWO

MUSICAL/ RHYTHMIC

Musical/Rhythmic Intelligence

. . . is the language-related intelligence that begins with the measure of sensitivity one has to the arrangement of sounds and the ability to respond emotionally to these sound patterns. This intelligence develops when one cultivates a study of pitch, tone, timbre, and rhythm.

Those with musical/rhythmic intelligence show an interest in playing musical instruments and/or singing. They surround themselves with music of all types and are able to identify and differentiate musical components such as tone, pace, and orchestration.

In the classroom, musical/rhythmic intelligence is stimulated when students are allowed to create and use songs, raps, cheers, poems, and jungles. Other activities that encourage this intelligence are listening and speaking to rhythm and patterns and learning about symbols, keys, and various terms used in creating and reading music.

The lessons in this section develop musical/rhythmic intelligence through opportunities to listen to and create music, study a variety of music from many cultures, and learn about the roles of significant musicians throughout history. These lessons align the literacy skills of reading, thinking, writing, speaking, and listening with the talents of creating and understanding music.

9

TALES IN MUSIC

ACTIVITY-AT-A-GLANCE

Purpose

Explore and identify the music of different cultures within the United States and another country; develop an understanding of ballads, instrumentation, and musical styles.

What You'll Need

- ☐ Recording of "Take Me Home, Country Roads" by John Denver
- ☐ One other recording of American country music, plus selections from other American music styles and at least one from another country (all with lyrics)
- ☐ Audiotape/CD players
- ☐ Music videos and VCR (optional)

Metacognitive Opener

Explain that music is a tale told in sounds. A tale is often a simple story that has been passed down from one generation to another. Introduce the concept of music—in particular, a ballad—as a tale. Tales are the oldest form of literature, they are found in every culture, and many have been handed down over thousands of years by word of mouth and through music. Some tales are amusing and other tales will describe the ways of people and their culture. Prompt students to listen for various musical instruments as they do this activity.

What to Do

1. Play all or a part of the song "Take Me Home, Country Roads." Guide the learners to listen to the lyrics and instrumentation.

9

2. Play another piece of country music. Tell the learners to listen for some common characteristics of American country music. (Some responses might include guitar music, slightly nasal singing quality, simple rhythm and beat, etc.)
3. Play another song from a different type of American music, such as jazz, rock, or blues. Then play music from another country. Have the learners write characteristics of the music that they hear in these selections. Ask them to point out instruments with which they are not familiar.
4. Have the learners work cooperatively, comparing "Take Me Home, Country Roads" with another recording they have listened to, one of their choosing or yours. Ask the learners to write the similarities and differences on a Venn diagram/graphic organizer (see blacklines section). Tell students they will be asked to group-share their work.

9

Meeting the Needs of Diverse Learners

1. Ask the learners to write and plan to retell the tale that is being told in each of the music selections. Tell the learners if they would like, they can sing their retelling.
2. Allow students to bring in their own music selections. Compare and contrast and discuss what tales these songs tell about other cultures in the United States and elsewhere.

Reflections

Prompt the learners to listen attentively to music—for lyrics as well as instrumentation. Ask them to reflect in their journals how music tells tales.

10

MUSIC AND THE SOUNDS OF LANGUAGE

ACTIVITY-AT-A-GLANCE

Purpose

Identify and understand the meaningful integration of music and some sounds of language.

Working Vocabulary

rhyme
rhythm
onomatopoeia
alliteration

What You'll Need

- ☐ Various recordings of poetry readings, plays, musicals—any recordings with words and music, or music as background
- ☐ CD/tape player and VCR/monitor
- ☐ Markers
- ☐ Drawing paper

Metacognitive Opener

Tell the learners that good writing, speaking, and music appeal to the ear as well as to the mind. Prompt students to discuss the effect of the sounds of language in their writing and speaking. Then play parts of a variety of recordings and just let students listen.

10

What to Do

1. Pause a selected CD, audiotape, or videotape. Have the learners identify some of the language sounds that they heard. Help students identify the use of rhyme, rhythm, onomatopoeia (such as *buzz*, a word that imitates the sounds of its referent), and alliteration (such as silly sounds).
2. Guide the learners in a demonstration lesson of the sounds of language discussed above. Name the sound or ask a learner to name the sound, and have the learners echo that sound or technique, then illustrate, draw, or sketch the sounds of language they heard in the recording. Then display their illustrations.
3. Ask students to write their own definitions for rhyme, rhythm, onomatopoeia, and alliteration.

Meeting the Needs of Diverse Learners

Have the learners prepare thirty-second speeches demonstrating one of the language sounds or techniques discussed above.

OPTIONAL TECHNOLOGY Videotape or audiotape these speeches.

Reflections

Tell the learners to teach the sounds of language to a younger sibling or friend. Encourage them to teach through the production of a musical skit or play.

11

FAVORITE COMPOSERS

ACTIVITY-AT-A-GLANCE

Purpose

Identify the works of some significant composers; appraise and compare the contributions of those composers and their music.

What You'll Need

☐ Music (recordings) by a variety of composers
☐ CD/tape player

Metacognitive Opener

Tell the learners that in order to make intelligent personal choice statements about music, they must understand the evaluating process. In this lesson they will practice a logical evaluative process.

What to Do

1. Identify your favorite composer and have students offer names of their personal favorites.

TIP **INSTRUCTIONAL TIP** Caution students that performers of songs are not always the composers.

2. Play music by a variety of composers.
3. Guide the learners in a discussion of evaluation verbs such as
    - assess
    - rank
    - grade
    - critique
    - select

Prompt students to evaluate music using these words. Give examples. Remind the learners to write and respond to questions and comments using the Guidelines (Criteria) for Responding to Questions form (see blacklines).

4. Have students research the lives of chosen composers and report to the class.
5. Have each learner research and prepare a colorful advertisement about the work of his or her favorite composer. Tell the learners they should remember to convey why he or she is their favorite composer. Display the advertisements in the classroom.

Meeting the Needs of Diverse Learners

1. Tell the learners they should select a composer other than their favorite, read an advertisement for that composer, and listen to the music of the composer.
2. Provide a generous amount of class time for the learners to discuss the selected composers and their music. Ask the learners to listen to the discussion and the various musical selections with the purpose of adding another composer to their list of favorites.
3. Have the learners name and label the parts of an instrument being played during a recording. (Research that instrument as necessary.)

Reflections

Have students arrange time at home to listen to music of favorite composers with family members, then share various personal responses to the experience.

12

CREATING JINGLES

ACTIVITY-AT-A-GLANCE

Purpose

Learn about how poetry is related to music and about writing jingles.

What You'll Need

- ☐ Poems (Select haiku or a variety of poetic styles, at your discretion.)
- ☐ Markers/crayons
- ☐ Unlined paper

Metacognitive Opener

Introduce the concept of setting poetry to music and the jingle as a song that has similar sounds repeated, has repetitious lyrics, and attempts to be catchy. Note that a Mother Goose nursery rhyme is a kind of jingle and give an example, such as the following: "Rain, rain, go to Spain, and never come back again." Have students discuss jingles they have heard.

TIP

INSTRUCTIONAL TIP If you decide to use haiku (a Japanese poetry form) for this activity, explain that the haiku consists of three lines: one of five syllables, next one of seven syllables, and then one of five syllables. (See Reflections.)

What to Do

1. Have learners select and read the poems and/or haiku aloud. In small groups, students discuss and decide as a group the author's message.
2. Have the learners individually write the message for each piece and make suggestions about the kind of music that would best retell the main idea of the poem. Share with the group.
3. Provide class time for each group to share one poem and information about the kind of music they think would best express the author's message to the reader. Encourage questions, comments, and reaction from the total class.
4. Organize learners in groups, with each group setting a selected poem to music, a familiar tune or one of their creation such as a rap.
5. Allow the groups to share their compositions and explain why they chose the music they did. Have the listeners in the class critique the jingles.

Meeting the Needs of Diverse Learners

1. Guide the learners in a discussion of a selected poem, the students' interpretation of the poem, and appropriate music to share the message of the poem.
2. Ask the learners to name another poem and suggest a piece of music that they believe would share the message of the poem. Have the learners explain the relationship they see between the selected poem and the music they chose.

Reflections

Have the learners write their own jingles at home and illustrate them. You may also have them create a musical composition that complements the following haiku by the author:

What tiny stranger
rests upon the snowy leaf?
Hurry, spring, you're late.

13

ORCHESTRA INSTRUMENTS

ACTIVITY-AT-A-GLANCE

Purpose

Identify orchestra instruments by appearance and sound.

Working Vocabulary

tone
color
symphony orchestra

What You'll Need

☐ Recordings of symphonies or orchestral arrangements (Research the music beforehand so you are familiar with what instruments are being played.)
☐ CD/tape player

Metacognitive Opener

Ask the learners to close their eyes and think about their last trip to the symphony orchestra or the last time they heard a symphony orchestra playing on a recording, in a movie, or on a videotape. Have the learners name some of the instruments they remember seeing and/or hearing. Explain that they are going to develop an understanding of comparing and identifying similarities and differences. Prepare students to name, compare, and listen to some of the symphony orchestra instruments.

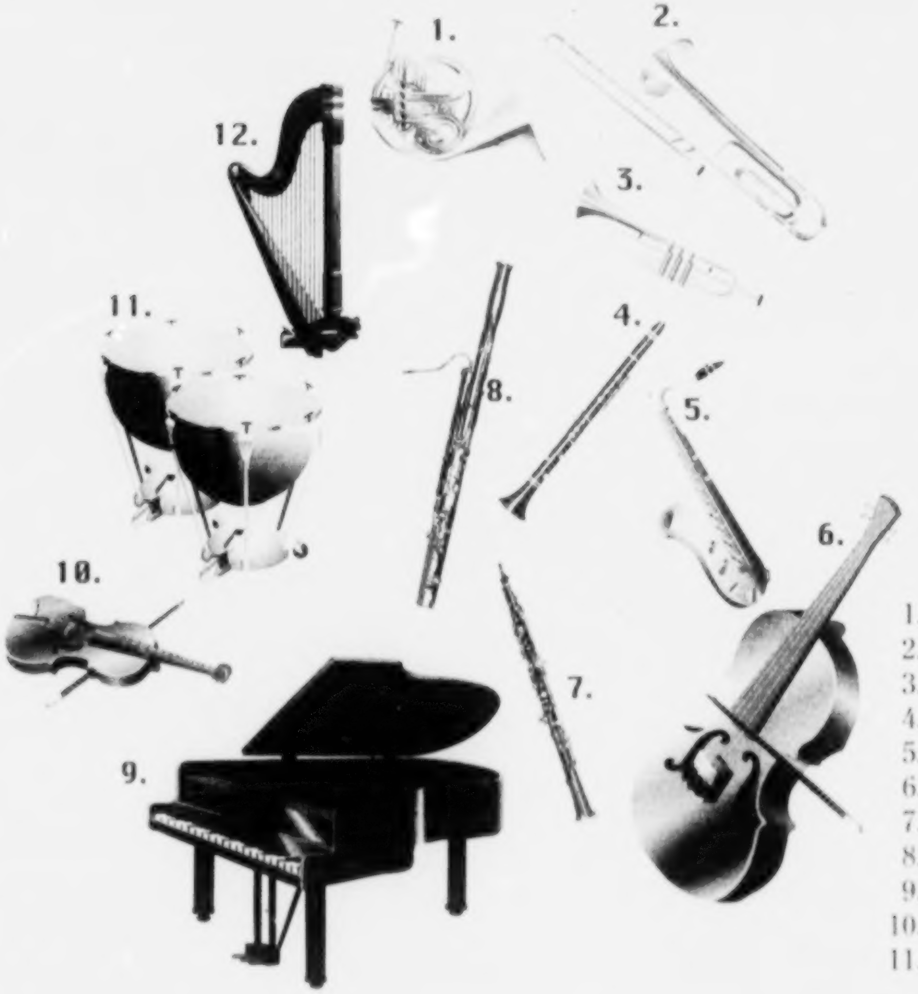
What to Do

1. Discuss with the learners the vocabulary words noted above.
2. Allow the learners to listen to all or a part of a selected symphony.

13

Display the Orchestra Instruments form (see blacklines). Assist students with identifying the instruments by using the key below.

3. Pause the symphonic presentation; ask the learners to name some of the instruments they heard. Assist as necessary.
4. If instruments are available for display and use, have students handle the instruments they have identified.
5. If instruments are not available, ask students to listen to the recording for a specific instrument, such as a viola or cello, and draw a diagram of that instrument. Students may research as necessary.



1. French horn
2. Trombone
3. Trumpet
4. Clarinet
5. Saxophone
6. Bass
7. Oboe
8. Bassoon
9. Piano
10. Violin
11. Kettle drums (timpani)
12. Harp

13

Meeting the Needs of Diverse Learners

Group the learners and have them discuss the similarities and differences in the sounds and physical characteristics of the viola, cello, and bass. Use musical recordings of these three instruments to demonstrate for the class. The music teacher in your school may be of assistance in this activity.

Reflections

Have the learners share their lesson with another class. Ask them to write about how the sharing of the information further helped them to understand the various instuments used in an orchestra.

14

MUSICAL MOTIFS

ACTIVITY-AT-A-GLANCE

Purpose

Identify and interpret the motif of a symphony.

Working Vocabulary

motif

What You'll Need

- ☐ Recordings of symphonies, such as one of Beethoven's—at the teacher's discretion.
- ☐ CD/tape player
- ☐ Picture of a composer (optional)

Metacognitive Opener

Ask readers what they know about the composer. If Beethoven is selected, share information about him, including an interesting fact such as:

Ludwig van Beethoven, best known for his nine symphonies, lost his hearing at about thirty and could no longer give public performances. However, he continued to compose music because he could still hear the music in his head.

What to Do

1. Define for the learners the motif as a recurring theme or musical design within a symphony.
2. Have the learners listen to part of a symphony and identify the motif. Have the learners give their own titles to the work.

3. Allow the learners to listen to the teacher-selected symphony once more. Have them draw, sketch, and doodle, visualizing the mood of the piece as they listen.
4. Have the learners write an interpretation of what they have heard and suggest a new idea or rhythmic pattern.
5. Ask the learners to share their ideas and reasons for the suggested additions and deletions. Have the learners discuss how their sketching and drawing enriched their understanding of the music.
6. Play recordings of other symphonies by other composers as time allows

Meeting the Needs of Diverse Learners

1. Have the learners listen again to the teacher-selected symphony. The teacher should point out the motif or recurring pattern of tones only if students need prompting.
2. Guide the learners in tapping on their laps or desks to keep rhythm with the symphony.
3. Have the learners identify any examples of advertising or popular culture that took their inspiration from the symphony they have heard in class. (For instance, current United Airlines TV commercials use the motif from George Gershwin's *Rhapsody in Blue*.)
4. Allow a generous amount of class time to review, restate, and share information about the class symphony and the contemporary examples they found that use the symphony.

Reflections

Ask the learners to select from the school, community, or home library another symphony, then listen to the music and interpret and explain the motif.

15

VOICE AS MUSIC

ACTIVITY-AT-A-GLANCE

Purpose

Name and identify the four main categories of the singing voice.

Working Vocabulary

voice range
voice categories: bass, tenor, alto, soprano

What You'll Need

- ☐ CD/tape player
- ☐ Various recordings demonstrating the voice categories
- ☐ Photos of different types of trees in different seasons

Metacognitive Opener

Show the learners the various pictures of the trees. Tell the learners that different voices provide needed variety and color to vocal music, just as the different trees make a forest varied and beautiful. Allow the learners to quickly describe verbally the contrast of the trees. Have students discuss other examples of other contrasts around them. Explain that in this activity they are going to learn about the similarities and differences in voice.

What to Do

1. Review with the learners the terms necessary for the lesson.
2. Play the recordings demonstrating the voice categories.
3. Have the learners say which category they think their own singing

voice falls into.

4. Allow the learners to name instruments that use the terms alto, bass, tenor, and soprano, such as clarinets, saxophones, and recorders.
5. Play a popular song, such as "That's What Friends Are For" or a Manhattan Transfer recording. Ask the learners to listen and create their own terms that define each of the four voice categories in the selected recording. Tell the learners they will be asked to share their musical phrases.
6. Have the learners group-share their work with another class.

Meeting the Needs of Diverse Learners

If you are not skilled in vocalizing, ask the music teacher in your school to assist in demonstrating vocal categories. If possible, arrange a field trip to hear a choir sing or ask the school choir/music club to perform for the class.

Reflections

Encourage learners to prepare a mini-presentation/songfest emphasizing the four voice categories. Assist as necessary.

OPTIONAL TECHNOLOGY Allow the learners to tape their mini presentation/songfest. Have all the learners listen to the presentation and critique the songfest for accurate representation of the four voice categories.

16

FINGER DANCE

ACTIVITY-AT-A-GLANCE

Purpose

Understand the value of following directions sequentially in respect to learning music, applying the Kodály method of teaching tonal relationships.

What You'll Need

- ☐ Kodály Method Hand Signals form for each student (see blacklines section)
- ☐ An instrument, such as a piano or pitch pipe for teaching the musical scale (or a recording of the musical scale in a selected key)

Metacognitive Opener

Prepare learners to follow directions carefully so they can dance with their fingers and learn music. Share with them the information below on the Kodály method. Tell the learners that they must listen, follow directions, and imitate exactly in order to learn this finger dance. There can be no improvising—the moves are sequential and precise.

TIP

INSTRUCTIONAL TIP Following is some brief information on the Kodály method. You may consider exploring the method in more depth through library research or on the Internet.

Based on the philosophy of the Hungarian composer, musicologist, and educator Zoltan Kodály (1882–1967), the Kodály method starts with basic rhythm concepts and simple melodic patterns and goes gradually to conscious *knowledge of pentatonic and other commonly used scales. To build solid learning, the Kodály method uses hand signals and ear training, training that is achieved through the use of relative solmization, a moveable* do *system in which pitch syllable names indicate relationships among pitches in a key.*

What to Do

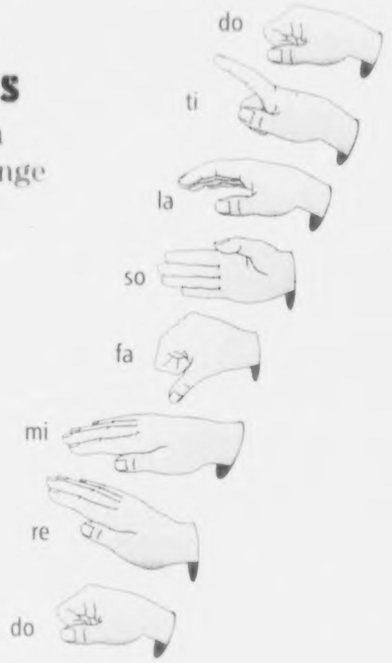
1. Show the learners the Kodály Method Hand Signals (see blacklines). Ask students to look over the form carefully and move their fingers into the position pictured.
2. Organize the class in eight groups. Assign each group a hand model and ask the group to practice their finger dance formation and singing their part of the pitch key. Tell the learners their work is an essential part of the whole. Give the learners adequate practice and preparation time.
3. Have the groups stand in sequential order: do, re, mi, etc. Ask the learners to practice their small-and large-group presentation.
4. Sing the scale together and use hand signals accordingly.

Meeting the Needs of Diverse Learners

Have the learners regroup, plan, and produce a videotape of their completed project, then arrange to have the tape delivered to a neighborhood nursery school.

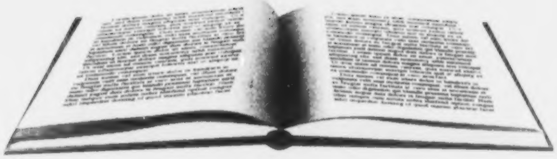
Reflections

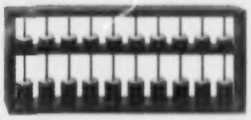
You may encourage students to view the 1977 Spielberg film *Close Encounters of the Third Kind*, which at several points demonstrates the Kodály method as musical communication. Discuss the film with students.



SECTION THREE

LOGICAL/ MATHEMATICAL





Logical/Mathematical Intelligence

. . . is the intelligence of numbers and reasoning. It is the ability to use inductive and deductive reasoning, solve abstract problems, and understand the complex relationships of mathematical analysis and scientific processes.

Individuals strong in logical/mathematical intelligence possess the critical thinking skills of sequencing, analyzing, and estimating. They often excel in math, science, and computer utilization. These students have the logic to think at complex levels, analyze data, interpret information, and solve various kinds of problems.

A teacher can awaken logical/mathematical intelligence in the classroom by presenting well-organized and sequenced lessons. Puzzles, games, projects, experiments, categorizing activities, analogies, and any activity performed on a computer will stimulate and exercise this intelligence.

The logical/mathematical-focused activities in this section will help to employ the properties of this intelligence by allowing students opportunities to sequence, analyze, estimate, and practice precision, inquiry, and elaboration.

17

ROMAN NUMERALS

ACTIVITY-AT-A-GLANCE

Purpose

Read a Roman numerals table, produce new sets of numbers, and build math/logical understandings.

What You'll Need

- ☐ Index cards

Metacognitive Opener

Ask learners to think about the various methods and tools they use for solving math problems. Explain that many centuries ago the Romans devised a system of numbers that is different from the Arabic/Hindu system commonly used today. The ancient Roman system of numbers was used in Western culture up until the sixteenth century, when the Arabic number system became the preferred system. Prepare students to learn the system of Roman numerals and apply the three rules for reading Roman numerals listed below.

What to Do

1. Introduce the Conversion Chart for Roman Numerals included here (see blacklines), which gives the value of each Roman numeral.
2. Guide the learners in a discussion and application of each of the following three rules.
   - A Roman numeral is repeated to indicate addition (for example, XXX means 10 plus 10 plus 10, or 30).

  - When one Roman numeral follows another with a greater value, addition is also indicated (for example, MC means 1,000 plus 100, or 1,100).
  - When one Roman numeral precedes another with a greater value, subtraction is indicated (for example, XL means 50 minus 10, or 40).

3. Have the learners work cooperatively in groups to
   - write the Roman numerals for 21, 16, and 42.
   - write the Arabic numerals for CCX, MCL and CLX.
4. Allow the learners to share and compare their completed responses with other groups.
5. Pair students and have them create Roman numeral flash cards. Allow them to test one another on their knowledge of this system.

Arabic	Roman	Arabic	Roman	Arabic	Roman
0		19	XIX	90	XC
1	I	20	XX	100	C
2	II	21	XXI	101	CI
3	III	22	XXII	102	CII
4	IV	23	XXIII	200	CC
5	V	24	XXIV	300	CCC
6	VI	25	XXV	400	CD
7	VII	26	XXVI	500	D
8	VIII	27	XXVII	600	DC
9	IX	28	XXVIII	700	DCC
10	X	29	XXIX	800	DCCC
11	XI	30	XXX	900	CM
12	XII	31	XXXI	1,000	M
13	XIII	32	XXXII	2,000	MM
14	XIV	40	XL	5,000	$\overline{V}$
15	XV	50	L	10,000	$\overline{X}$
16	XVI	60	LX	100,000	$\overline{C}$
17	XVII	70	LXX	500,000	$\overline{D}$
18	XVIII	80	LXXX	1,000,000	$\overline{M}$

17

Meeting the Needs of Diverse Learners

1. Have the learners work cooperatively to write their ages in Roman numerals.
2. Ask the class to collaborate to create a daily school schedule using Roman numerals for times. Display the schedule in the class area and occasionally ask the learners to refer to that schedule to plan the movement for the day.

Reflections

Have students keep a list of places where they find Roman numerals used, such as on business buildings, clocks and watches, places of worship, school buildings, and at the end of the credits of many movies and television programs in their respective copyright statements. Discuss individual findings as a class.

18

THE MYSTERIOUS JELLYFISH AND MAN-OF-WAR

ACTIVITY-AT-A-GLANCE

Purpose

Learn and use a critical problem solving technique for making comparisons.

Working Vocabulary

invertebrate

What You'll Need

☐ Plain unlined paper

Metacognitive Opener

Begin by asking students if they have ever been compared to a sibling or friend. Now discuss techniques that might assist them in drawing such comparisons. Explain that the class will be comparing two sea creatures, a jellyfish (an invertebrate—an animal without a skeleton) and one of its relatives, the Portuguese man-of-war.

What to Do

1. Display pictures of the jellyfish and the Portuguese man-of-war (see blacklines section) and have students compare and contrast the two creatures using a graphic organizer, such as a Venn diagram, to list observations. Refer to the Venn diagram and the drawing of a jellyfish and Portuguese man-of-war (see blacklines section).

2. You may also have the learners search the library or media center for other pictures of and information about the jellyfish and the Portuguese man-of-war. The following summary information about these invertebrates is included here for your convenience. For younger students or to save time, you may relay this information verbally to your class, simplifying as necessary:

> The **jellyfish**, which is not really a fish at all, has existed for at least 650 million years. Jellyfish are transparent, and they are all related to the Portuguese man-of-war. The jellyfish has tentacles, but no brain, no heart, no real eyes. Jellyfish do have nerve sensors and are made of 95% water. A jellyfish will grow a new tentacle if one is damaged or cut off.
>
> The **Portuguese man-of-war** is not one animal, but an organism—a colony of hundreds of individuals called *zooids*. This colony exists in a bladderlike float. Some parts of the organism keep the man-of-war floating, some protect it, some help it to eat, and some allow it to reproduce. One type of zooid in this colony has tentacles.
>
> **Both the jellyfish and the Portuguese man-of-war** have stinging tentacles that they use to capture prey and defend themselves. They both have individual stinging cells with little threads containing harpoon-like endings. When the cells come in contact with certain chemicals or are touched by another sea animal, a fish, or someone who is swimming, the harpoon threads come shooting out and have a paralyzing effect on the unfortunate victims.

3. Have students draw or create their own models of a jellyfish and/or Portuguese man-of-war.
4. Discuss with students how the techniques they used for analyzing and differentiating in this activity can be transferred to analyze math problems or science experiments.

Meeting the Needs of Diverse Learners

1. Have the learners research and report on the stages the jellyfish go through to become adults.
2. Ask the learners to research and prepare a simple drawing or sketch of other invertebrates.

Reflections

Have students compare and contrast two other kinds of creatures with the aid of a graphic organizer, such as Venn diagram or other comparison chart.

19

MONEY MATTERS

ACTIVITY-AT-A-GLANCE

Purpose

Name and describe the currencies of selected foreign countries and learn to count, compare, and convert the value of that money into that of U.S. currency.

What You'll Need

- ☐ Pictures of currency from other countries or actual foreign currency

Metacognitive Opener

Tell the learners that most countries have their own monetary systems, that is their own units of money. For instance, Canada uses the Canadian dollar and Mexico uses pesos. Explain for younger students who may not know that the values of foreign money are different from U.S. currency. Depending on the age of your students, you may ask students to find the current exchange rates in a newspaper and bring in the rate lists for class viewing. Ask students to consider some of the challenges they might face if they were in a foreign country and had to use their currency.

What to Do

1. Ask the learners to think about and name some foreign countries. Ask those student who have traveled to other countries if they are familiar with the currency used there.
2. Show pictures or actual samples of selected foreign currency. If you are using pictures of currency, cut out various coins and bills so students can complete the steps of this activity.

(**Note:** If you bring in your own collections or invite students to bring in foreign currency from home—if they have their parents' permission—use caution and supervise the viewing as needed. It is recommended that you do not encourage bringing large-denomination bills or coins.)

3. Have students name and identify the country of origin for two sets of foreign currency and allow visual comparison with U.S. money.
4. Have students record the similarities and differences in the physical characteristics of each type of currency they examine using a Venn diagram (see blacklines section) or chart/matrix of their own design.
5. Assign students to work in groups and determine how much a given foreign coin or bill is worth in U.S. money according to the current exchange rate. Encourage each group to share results with the class.

TIP **INSTRUCTIONAL TIP** Provide younger students with some additional time to arrange and examine the coins and currency.

Meeting the Needs of Diverse Learners

1. Have the learners think about two foreign countries they would like to visit. Tell them they are going to visit—vicariously—one of those countries and purchase some fresh fruit, balloons, and a book.
2. Allow the learners time to research one of the countries they have chosen on the Internet or in print resources, making sure to gather information about the monetary system.
3. Now have the learners prepare a report about their research and shopping trip. Tell them they must include in the report a detailed explanation of that country's monetary system, a real or constructed visual of the currency and coins of the country, and a paragraph about their experiences purchasing fresh fruit, balloons, and books.
4. Plan a generous amount of time for the learners to share reports and ask questions of one another.

Reflections

Suggest the learners teach a younger sibling or friend about the currency of another country and write a short composition or journal entry about that experience.

20

MEAN OPERATIONS

ACTIVITY-AT-A-GLANCE

Purpose

Practice mathematical operations; explore averaging, the act of solving simple equations as well as apply critical thinking and problem solving techniques.

What You'll Need

☐ 24 cubes or building blocks

Metacognitive Opener

Have students consider how they might determine the average daily rainfall in their hometown. Explain that in this activity they will average a set of numbers and determine the *mean,* another word for average or a representative figure for a set of numbers.

$8 + 8 + 8 = 24 \div 3 = 8$

What to Do

1. Review the process of averaging with the class by using various sets of numbers to average.
2. Have one of the learners arrange a set of 24 cubes in groups of eight. Do not volunteer the information that there are 24 cubes in all. Prompt students to view the arrangement and to deduce that three

times eight equals twenty-four, with eight being the average or mean.

3. Challenge learners to try other methods of arriving at the mean figure, and have them create their own problems to solve, with the goal being to determine the mean or average.

OPTIONAL TECHNOLOGY After using the method above, allow students to use a calculator or computer program to determine the average of a long column of figures.

Meeting the Needs of Diverse Learners

Have the learners work cooperatively to find the average/mean for a group of five teacher-selected series of numbers.

Reflections

Assign groups of four to six students to watch different TV stations (at your/parents' discretion) at a preselected hour in the afternoon or early evening, directing that each student record the number of commercials shown on a particular TV station during that hour. Invite students to share results of their survey/inventory during the next class session. Have students create a record (visual display) of their results and collaborate on determining the average number of commercials shown per hour.

21

CIRCULATE!

ACTIVITY-AT-A-GLANCE

Purpose

Learn about features of a human's closed circulatory system and explore analogies to a road map.

Working Vocabulary

the human circulatory system
arteries
veins
capillaries

What You'll Need

- ☐ Maps showing beltways or interstate highways
- ☐ Large color diagram (poster) or plastic model of the human circulatory system (available from school media resource or science departments)

Metacognitive Opener

Ask students to think about what the human body would have in common with a road map, then introduce this activity in which they will compare a road map to the human circulatory system. For younger students, review the parts of the circulatory system (the heart, blood, and blood vessels) and how they interact to carry oxygen and nutrients to and remove waste from the body.

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What to Do

1. Have students view the model or illustration of the human circulatory system.
2. Have them diagram a closeup of one part of the system, such as the heart, an artery, or a vein.
3. Show a copy of a highway map. Have the learners work cooperatively to compare the circulatory system with the highway map. Ask the learners to write responses to the following questions:
   - How are a major city and the human heart alike?
   - Explain the similarities between the human circulatory system and the interstate highways or the beltways.
   - What do trucks that transport goods on a highway have in common with elements of the human circulatory system?

TIP **INSTRUCTIONAL TIP** If your classroom is equipped with a faucet, try this surprise experiment with students: Before students arrive in the class turn off the pipe valve under the sink. As students begin viewing the human circulatory model, ask a student to fill a beaker or cup of water. When no water comes out, ask students to use logical reasoning to arrive at the reason why. Provide hints and then the answer, if necessary, after students have tried to solve the problem. Then, ask students to use logic to determine what the water system has in common with road maps and the human circulatory system.

Meeting the Needs of Diverse Learners

1. Have the learners use a dictionary and research the root of the word *circulatory* and related words.
2. Have students research one particular part of the human circulatory system, create a visual, and report to the class.

Reflections

1. Have the learners create or locate a drawing of the human body showing the function of the circulatory system.
2. Use a Venn diagram to compare a road map and the human circulatory system.

22

USING GRAPHS

ACTIVITY-AT-A-GLANCE

Purpose

Use/read and create bar graphs or charts, line graphs, and circle graphs. Select the preferred type of graph most useful for displaying a specific set of information.

What You'll Need

☐ Graph paper
☐ Rulers
☐ Poster board

Metacognitive Opener

Ask the learners to think about how graphs or charts visually organize data. Remind the learners that they may have seen graphs or charts in television shows, computer programs, books, and newspapers. Prepare learners to review, discuss, and increase understanding of the meaningful and appropriate use and reading of bar, line, and circle graphs.

What to Do

1. Present and discuss the following three concepts about graphs to the class:
   - A bar graph (or chart) is used to compare amounts.
   - A line graph is used to show how an amount changes over time.
   - A circle graph compares parts to a whole.
2. Have students collect examples of each type of graph in books, in newspapers, and on the Internet (with supervision). Bring your own samples of graphs to get them started.

3. Select some graphs to review with the class, aiding students in interpretation of the data as needed.
4. Tell the learners that many readers benefit by visual representations of materials while reading, since such visuals or graphs display or enhance information in a different way and enhance reading comprehension.
5. Have students as a class brainstorm information that might be best displayed on a particular kind of graph, such as the food groups in a daily diet being shown on a circle graph.
6. Group learners in three teams and have them select an area of information to visually display. Assign a different type of graph to each group and have them collaborate as they use a poster board to display their final products.

OPTIONAL TECHNOLOGY Allow the learners to use a computer and illustration software, if available, to review and apply lessons learned by designing bar, line, and circle graphs.

Meeting the Needs of Diverse Learners

1. Have students write their interpretations of information presented in a graph that they have selected from their personal readings.
2. Have student teams devise graphs to display performances of various school teams or work by various clubs, such as fundraising.

Reflections

Have learners interview their parents or other adults to learn if, how, when, and why they use graphs or charts in their work or household routines. Have the learners prepare graphs to summarize their findings and share information with their classmates.

23

INFORMATION REVOLUTION

ACTIVITY-AT-A-GLANCE

Purpose

Understand the general history and the role of computers in the information revolution.

What You'll Need

☐ Computers/access to a school computer lab

Metacognitive Opener

Ask students to think of the steps they take when they want to get a message out (i.e., plans and invitations for a party) and how they might use a computer. Answers might include creating and printing out invitations or e-mailing them, as well as keeping track of how many people are coming. Explain that computers are an essential part of our information revolution, as they have completely changed the way information, such as students' party plans, is shared.

What to Do

1. Review with the learners the historical sequence shown on Key Developments in Computers. (See blacklines section.)

    - 1944 Mark I was an early computer built by IBM at Harvard University. It was little more than a huge adding machine: fifty-five feet long, one million parts, and 500 miles of wire. Mark I could complete two additions a second. By 1944 standards, today's calculators would be considered computers.
    - 1945 Electronic computer invented.

- 1946 The first-generation computer ENIAC (Electronic Numerical Integrator and Computer) was built. It was faster than Mark I. It had 8,000 vacuum tubes, 20 compartments, and the whole computer could complete a 1,000,000 additions a second.
- 1970 Microcomputers/personal computers were introduced, made possible by their tiny circuit boards (chips), which brought down the size and price of computers and increased their availablity. Personal computers could at this point complete 100 million additions a second.
- 1990s The Information Revolution linked people around the world. Through the Internet, a worldwide computer network, someone can instantly send and receive messages, sounds, and pictures to someone else on the other side of the planet.

2. Discuss the following uses of computers: safety/alarm systems, calculators, traffic lights, weather forecasting systems, artificial legs and arms, and sports record keeping devices.
3. Have the learners list some additional uses of computers.
4. Invite students to research computer history further and present reports to the class.
5. Have students reflect on the idea that computers think logically.

Meeting the Needs of Diverse Learners

1. Group students in teams and have them research and expand the time line shown in this activity. Have teams display their visual representation on posters in the classroom.
2. Have the learners research the invention of the computer chip and compile a class report.

Reflections

Have students consider how different their lives would be without computers. Prompt them to think about a recent electrical power outage and what happened when the computers (along with the lights!) went out. Have students write a narrative entitled "A day without computers."

24

THE TIMES TABLES

ACTIVITY-AT-A-GLANCE

Purpose

Access prior knowledge, learn mathematical operations, and take part in an interactive logical/mathematical work session.

What You'll Need

- ☐ Graph paper

Metacognitive Opener

Explain that the class is going to review multiplying any number by a multiple of ten. Share this simple rule with the learners: To multiply by any number ending in zero, cross out the zero in the multiplier and bring it down to the ones place in the answer space. Then multiply by the number in the other place(s) in the multiplier.

TIP

INSTRUCTIONAL TIP This activity is appropriate for students in basic math just being introduced to the operation of multiplication.

What to Do

1. Give each learner a sheet of graph paper and have him or her draw a 10 x 10 multiplication grid, numbering from one through nine across the top and 10 through 90 by multiples of 10 down the left side of the graph paper. During this activity, each learner will be responsible for writing the product of the intersecting row and column numbers in

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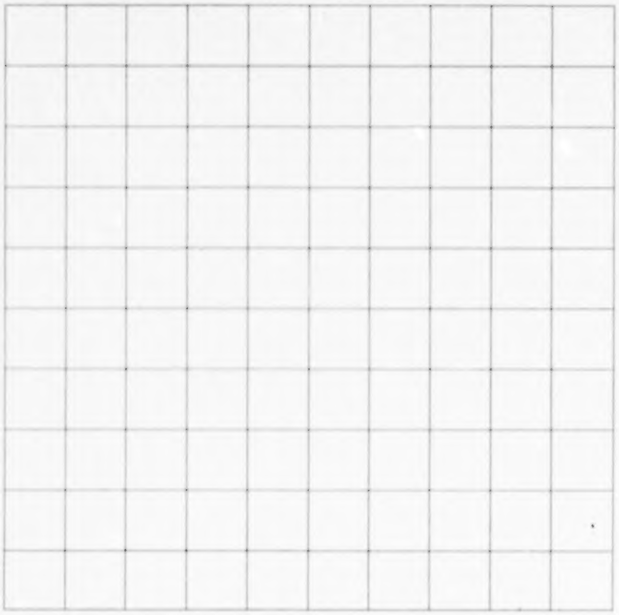
Model grid



Model problem

55
×10
550

the appropriate square.

2. Have the learners orally recite the number sentences for multiples of ten through ninety (i.e., one times ten equals ten . . .).
   - Ask the learners what patterns they see on their chart.

     Model Answer: Each answer/product ends in zero.
   - Ask the learners what rule exists for multiplying a number by ten.

     Model Answer: A zero goes in the ones place and then we multiply the number(s) following.
   - Ask the learners how this rule applies to twenty, thirty, etc.

     Model Answer: Place a zero in the ones place and multiply by the number(s).
3. Review the multiplication rule for multiples of ten and ask the learners to cooperatively complete five additional examples.
4. Emphasize the importance of following rules carefully when solving math problems.

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Meeting the Needs of Diverse Learners

1. Group the learners and ask them to restate the multiplication rule and write some additional examples.
2. Have the learners write multiplication sentences to show their understanding of the multiplication rule.
3. Ask the learners to complete their grids and write a sentence or two explaining the reason their grids show the correct responses.
4. Have the learners mentally group factors to form multiples of ten and then have them write out their responses.

Reflections

Allow the learners to answer the following question: There are ten students from each class in the school band. There are fourteen classes. How many students are in the band?

SECTION FOUR

VISUAL/ SPATIAL

Visual/Spatial Intelligence

. . . is the capacity to perceive the visual world accurately and recreate one's own visual images. This intelligence involves the ability to observe form, color, shape, and texture in the "mind's eye" and to reproduce or convert these images to actual visual representations—such as art forms.

Students with visual/spatial intelligence can see subtle color distinctions and nontraditional patterns and are able to translate these designs to a chosen medium of expression. These students are comfortable with art tools including pencils, crayons, paintbrushes, and computer graphics, and will spend free time sketching, drawing, and designing. Often the completed works of these individuals show complex visual/spatial relationships such as innovative patterns and imaginative renderings of everyday objects.

To develop and inspire visual/spatial intelligence in the classroom, teachers can furnish the classroom with a variety of art materials, cameras, charts, computers/graphic programs, and artwork models. To stimulate this intelligence, allow students to experiment in all areas of visual arts independently as well in conjunction with assignments in other curricular areas.

The lessons in this section inspire development of the visual/spatial skills of analyzing and creating images while also stimulating thinking, speaking, and writing skills.

25

ALL ABOARD THE GAME

ACTIVITY-AT-A-GLANCE

Purpose

Develop and increase visual/spatial comprehension through playing and then designing a board game.

What You'll Need

☐ A set of board games, such as checkers, CandyLand, Concentration, or—for older students—chess or backgammon
☐ A variety of art materials and poster board

Metacognitive Opener

Introduce the concept of playing a game not just for fun but to develop visual/spatial understanding, the ability to see relationships and unique patterns. Prompt students to reflect on a particular game's design with the knowledge they will be creating their own board game later.

What to Do

1. Introduce the selected game, having groups of students, each with a board, read the directions and then orally review the rules so that all understand before the game begins. For games such as chess and checkers, students will—of course—work in pairs.
2. Have students play the game.
3. Direct student groups/partner teams to collaborate on a design for a new board game, allowing the teams time to develop and then execute their game design.

4. Have students teams demonstrate their games for the other students and, if arrangements can be made, with lower grade classes.

OPTIONAL TECHNOLOGY If computers and appropriate programs are available, have students design computer games.

Meeting the Needs of Diverse Learners

1. Regroup the learners according to their level of understanding. (This is based on teacher assessment, learners' questions, and responses.)
2. Have the developing and accomplished learners teach and reteach emergent learners.
3. Invite players to prepare a dialogue of reasons for certain moves during a given game, focusing on the visual/spatial aspect of the game, then share and discuss these dialogues with their peers.

Reflections

Ask learners to write in their journal a paragraph or two about what they learned through this game playing and designing experience.

26

SEEING RELATIONSHIPS IN ANALOGIES

ACTIVITY-AT-A-GLANCE

Purpose

Integrate new vocabulary with existing word knowledge and develop comprehension for reading strategically by use of analogies—connections or associations between two or more things, ideas, people, or actions.

Working Vocabulary

analogy
antonym
validity statement

What You'll Need

- ☐ Dictionaries
- ☐ Thesauruses
- ☐ Paper and crayons/colored pencils/markers

Metacognitive Opener

Find examples of analogies from current readings or from recent radio or television programs with which students are familiar and share these with students, then solicit more examples from them. Analogies are useful for seeing and expressing relationships and, indeed, in developing the visual/spatial intelligence. Looking for relationships between word pairs can teach an individual new ways to use familiar words and acquaint him or her with new ways for thinking as well as written and verbal expression. Finding and creating analogies invites students to explore different perspectives and to visualize as they compare people, animals, objects, actions, and ideas.

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Weak is to strong as slow is to fast.

What to Do

1. Confirm that learners understand the concept of an analogy.
2. On the chalkboard or on a poster board in the class, write the following analogies, in the format shown below:
    - weak:strong::slow:fast
    - titanic:meager::large:small
    - sailboat:triangular::earth:circular
    - cold:winter::warm:spring

   Discuss with students how the first two analogies fall into the category of antonyms and how the last two are object-description analogies.
3. Have the learners choose their own analogies then create an illustration, a visualization, of the analogies.
4. Prompt the learners to write their analogy in the prescribed format along with a sentence explaining how they determined/the rationale of the analogy and illustration (a validity statement).
5. Provide time for group sharing of the analogies and the validity statements.

Meeting the Needs of Diverse Learners

1. Move the learners needing additional focused teaching assistance with writing analogies into a small group. Restate, reteach, question, and share additional information as needed about the analogy definitions and format.
2. Have the learners peer-teach (teach each other) to help grasp and understand the information.
3. Ask the learners to work collaboratively to write four additional analogies, illustrate their analogies, and write validity statements for each analogy. These analogies could be used to reteach analogies to learners needing further assistance.

Reflections

1. Ask the learners to locate, cut out, and assemble antonym analogy collages (pictures from newspapers and magazines that fit with students' chosen analogies).
2. Have the learners prepare pantomime object-description analogies (for example, miming using a pencil and showing that it is straight, then miming dribbling a basketball and showing that it is round).
3. Provide class time for the learners to share their collages and mimes with their classmates.

27

ANALYZING A STORY

ACTIVITY-AT-A-GLANCE

Purpose

Diagram, analyze, and relate the significant events in a fictional story.

Working Vocabulary

plot
exposition
rising action
climax
falling action
resolution

What You'll Need

- ☐ Unlined paper, two sheets per learner
- ☐ Pencils/pens
- ☐ Markers
- ☐ Pre-selected stories (short works of fiction) or fairy tales

Metacogitive Opener

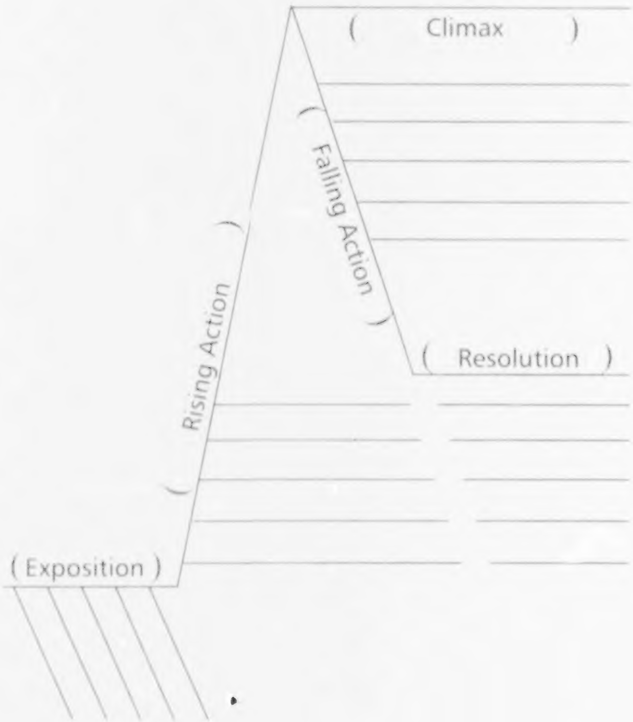
Ask students to define the plot in a story and discuss how it is uncovered. Explain that visual organizers are effective tools for helping all readers classify, examine, and relate information. The Plot Diagram (see blacklines section) used in this activity is the visual organizer they will use in identifying and analyzing the plot of a work of fiction.

What to Do

1. After all students have read the pre-selected story, confirm that they understand the literary elements listed in step 2, clarifying if need be.

2. If necessary, introduce the elements of a work of fiction:
   Character(s): person(s) in the story
   Setting: time and place
   Conflict: problem in the story/clash of opposing forces
      Person vs. Self
      Person vs. Environment/Nature
      Person vs. Person
   Plot: all the events in the story in chronological order
      Introduction: characters and setting introduced
      Rising Action: conflict introduced
      Climax: high point of story
      Falling Action: problems resolved
      Denouement: loose ends tied together
      Theme: author's message

Plot Diagram



3. Discuss the elements of the plot and the Plot Diagram (see blacklines section). Review the following elements of the plot diagram:
   - **Exposition** introduces story setting and characters.
   - **Rising action** introduces the story problem.
   - **Climax** is the high point of the story.
   - **Falling action** signals approaching end of the story conflicts.
   - **Resolution** closes the story. (Conflict[s] is/are resolved.)
4. Mention a well-known fairy tale familiar to all and have the class complete a plot diagram as a group, collaborating as they identify the various story elements.
5. Next guide the learners in a discussion of a fictional story recently read. Prompt learners to use another copy of the Plot Diagram (see blacklines section) and write sentences about the story on the appropriate lines on the plot chart.

Meeting the Needs of Diverse Learners

1. Use the cooperative group strategy of think, pair, and share (individual thinking time, then partner discussion, and finally all-class sharing) to reteach the new literary terms introduced in this activity.
2. Have the learners work in groups to prepare thirty-second television commercials about a fictional story or fairy tale of their choosing. Caution students not to give away the ending (the resolution). Consider videotaping for review at later time.

Reflections

Assign another short fiction selection story for home reading. Have students complete a plot diagram as part of class discussion the next day.

28

CLUSTER IT!

ACTIVITY-AT-A-GLANCE

Purpose

Build vocabulary for subject-related reading, speaking, writing, listening, and thinking.

What You'll Need

☐ Dictionaries
☐ Thesauruses
☐ Three different colored highlighters/markers

Metacognitive Opener

Explain that *graphic organizers* are great thinking tools for visual learners (learners who enjoy "seeing" what they are studying). Graphic organizers can increase learners' understanding, ideas, concepts, and words. The cluster map, one such organizer, will be used in this activity to enrich understanding of words by using colors and the act of *clustering.*

What to Do

1. Introduce the model cluster map, the Completed Cluster Map (see blacklines section).
2. Ask the learners to note the main word in the center of the map, *euphemism,* explaining the definition as need be—the substitution of a harsh word or phrase with a milder or less offensive one. Review the rest of the map, noting how a variety of situations/facts are defined on the lines, leading to the dialogue bubbles that feature typical euphemisms.

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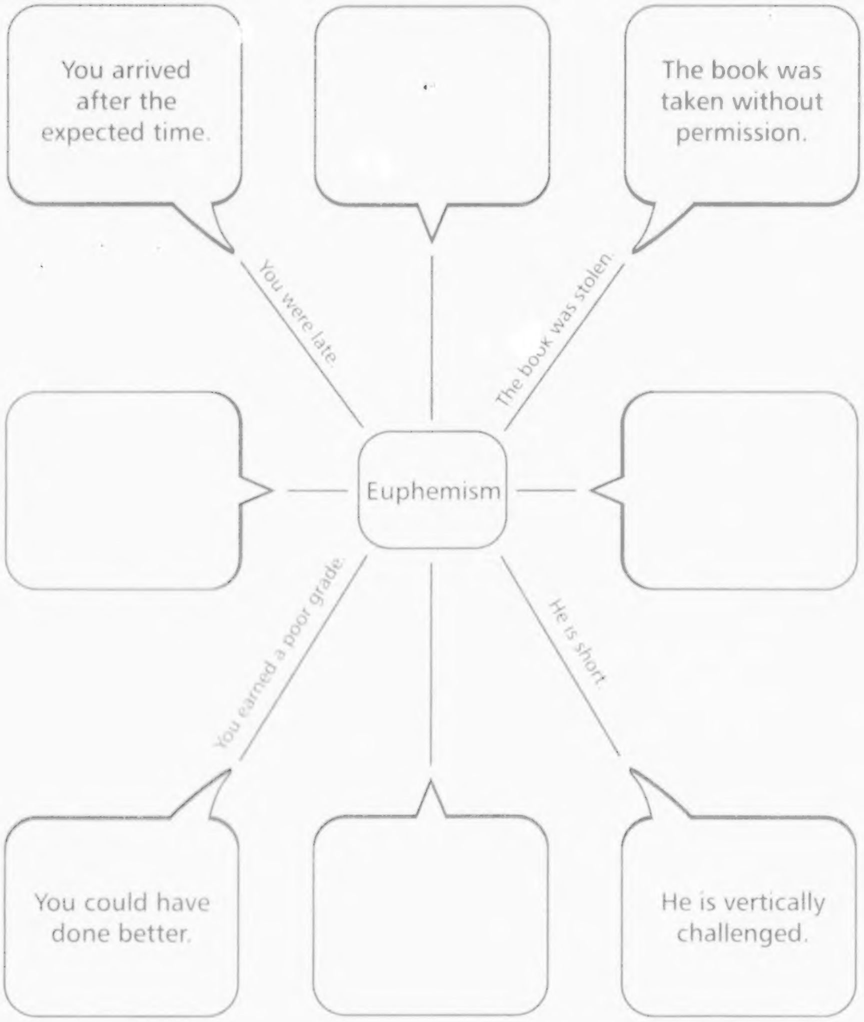
Cluster Map


You arrived after the expected time.
The book was taken without permission.
You were late.
The book was stolen.
Euphemism
You earned a poor grade.
He is short.
You could have done better.
He is vertically challenged.

3. Review the following terms and how they can be used to create euphemisms:
   Antonyms
   Synonyms
   Homonyms
4. Organize the learners in pairs or small groups, providing each with a blank Cluster Map (see blacklines section), advising students they will

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be doing their own euphemism cluster maps. Prepare students to use dictionaries and thesauruses to come up with their euphemisms—and caution discretion/use of non-vulgar language. Prompt them to brainstorm to identify several situations or perhaps negative facts, selecting one and creating their own euphemisms.

5. After completion, have students identify any antonyms, synonyms, or homonyms used on their cluster maps by highlighting/underlining them in different colors.
6. Have the grouped learners exchange maps and review, edit, and propose additional or related words for their classmates' cluster maps.
7. Ask the learners to read the edited cluster map(s) to the class and to identify at least two new vocabulary words learned.
8. Display the students' graphic organizers/cluster maps in the classroom.

Meeting the Needs of Diverse Learners

1. Ask the learners to reflect on and explain how their extended understanding of a new vocabulary word will improve reading comprehension.
2. Guide the learners in creating lists of words used in the cluster maps that related by root words. Consider copying these lists and sharing them with other classes as reading aids.

Reflections

1. Select another literary term or technique, such as *cliché* or *flashback*, and assign students to develop a cluster map exploring the use of that technique in a selected reading/homework assignment.
2. Remind the learners that they may use cluster maps to organize their course-related and noncourse-related reflections in their journals.

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TIGER POWER

ACTIVITY-AT-A-GLANCE

Purpose

Provide opportunities for learners to develop their sense of imagination and visualization.

What You'll Need

- ☐ Pre-selected color graphics/photo(s) of a tiger

Metacognitive Opener

Ask the students to imagine they are visiting a zoo and you have chosen to stop by the section set aside for tigers. Ask them to imagine what the tiger looks like. Caution them not to share their imaginings yet.

What to Do

1. After the opener, show the color photo of the tiger to the class and give students time to observe, then put the photo away.
2. As a group discussion, have students describe the tiger—the colors of its coat, the shape, the size, the features of the tiger, etc. Have some of the learners describe and mimic the ways a tiger walks and sounds.
3. Ask the learners to think about and describe a beautiful path or trail for a tiger expedition (i.e., grass, trees, vast open land areas).
4. Assign students to groups and have them agree on and then write five characteristics of a tiger. Prompt research, if necessary. Have each group member complete an individual resource sheet summarizing these characteristics and then illustrate it with an image of a tiger.

5. Ask the learners to display and share in their small groups the individually colored tigers and orally respond to questions and comments on the individual character of their visualization of the tiger.

OPTIONAL TECHNOLOGY Students may be prompted to research information about the areas of the world in which tigers are found, then prepare a map and/or create an audiotape of the sounds that might be heard in the native habitat of the tiger. Have a student or group of students report on tigers as an endangered species.

Meeting the Needs of Diverse Learners

1. Guide the learners in appraising the photo of the tiger as it is shown at the beginning of the activity.
2. Have the learners restate and respond to the following questions:
   - Which features of the tiger are most outstanding?
   - How evident is the tiger's strength?
3. Have the learners list the main characteristics of the tiger and then write and illustrate a tale entitled "Tiger Power."

Reflections

Ask the learners to select another animal to research and write about.

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ENVISION THE ENVIRONMENT

ACTIVITY-AT-A-GLANCE

Purpose

Apply the strategies of investigating, discussing, critical thinking, envisioning, and constructing to a discussion of the environment.

What You'll Need

- ☐ Poster paper
- ☐ Pencils/pens
- ☐ Markers
- ☐ Photographs of various environments

TIP **INSTRUCTIONAL TIP** Plan a generous amount of time to conference with learners about using the media center or library for research for this project.

Metacognitive Opener

Explain briefly how the earth's natural resources help all individuals live long and healthy lives. For example, pour a glass of water from one glass to another and ask learners to talk about what the sight of water makes them think of and how water is important to our lives. You may then want to add a small amount of dirt to one of the glasses and ask the learners how they would feel if they had to drink this "polluted" water. Also ask what things in the environment contribute to pollution. Ask the students where they learn about water. Answers should include classes in science, mathematics, geography, nutrition, and history, as well from their own lives. Help them see that what they learn in one place is useful in areas of study. What the learners learn in this activity should help them produce new ideas and products, such as recycling methods and filters.

What to Do

1. Ask the learners to identify what makes a healthy environment, such as the absence of litter, clean air and water, and so on.
2. Share teacher-prepared photographs of various environments that intentionally engage the learners' visual/spatial intelligence.
3. Guide the learners in selecting and reading or viewing appropriate resource materials about requirements for a clean and healthy environment.
4. Assist the learners in interpreting, questioning, and evaluating the information read.
5. Lead the learners in constructing bright attention-getting posters that show ways to help preserve the environment.

OPTIONAL TECHNOLOGY If the equipment and support are available, invite the school video/multimedia specialist to work with a selected group of learners to research and write, edit, and produce a videotape about the importance of a healthy environment. This might serve as a model for other student groups to develop video projects.

Meeting the Needs of Diverse Learners

Depending on the students' ages and ability levels, ask them to individually or as groups research one to three types of wildlife that have been adversely affected by an unhealthy or unbalanced environment. Have them prepare a visual presentation of their research.

Reflections

Have students write in their journals about what they can do at home to improve the environment (recycling, water conservation, and so on). Ask learners to share those reflections with the class.

SECTION FIVE

BODILY/ KINESTHETIC

Bodily/Kinesthetic Intelligence

. . . enables one to control and interpret body motions, manipulate physical objects, and establish mind and body harmony.

Those with bodily/kinesthetic intelligence interpret the world through touch and movement. These students enjoy sports and physical activity, have a good sense of direction, and move their bodies with a keen sense of timing. An individual strong in bodily/kinesthetic intelligence has finely tuned small-motor skills and can do such activities as weaving, sculpting, dismantling, and reassembling with ease.

A classroom that promotes bodily/kinesthetic intelligence contains manipulatives for solving abstract problems. Activities that include physical movement such as field trips, role-playing, learning centers, and teamwork, as in sports and games, will stimulate this intelligence.

The activities in this section allow students to develop and practice their bodily/kinesthetic intelligence. These lessons offer learners opportunities to use and explore body motions and use physical objects in their learning.

31

EUSTRESS AND DISTRESS

ACTIVITY-AT-A-GLANCE

Purpose

Understand the relationship of eustress (positive stress) and distress (negative) and their effects on reading comprehension.

Working Vocabulary

distress
eustress

What You'll Need

☐ Pre-selected passages of text/readings

Metacognitive Opener

Ask students to think about and discuss various and normal stresses they experience during an average school day. Define eustress and distress and explain that they are used to describe the way an individual feels; talk generally about how stress might influence reading comprehension.

What to Do

1. Ask the learners to work with a partner to discuss the meanings of eustress and distress and prepare a list of possible causes of stress that might occur while reading, thinking, and writing.

2. As a class, read a complex passage of text, such as one from an advanced reading comprehension test. Have students point out when they feel distress.
3. Help students find ways to overcome stress in these situations.
4. Ask the learners to prepare a short composition describing a time when reading caused them stress and how they dealt with it.
5. Allow the learners to share their essays to extend the idea of relaxing before and during reading.

Meeting the Needs of Diverse Learners

Discuss this activity with the school media specialist or librarian and ask for assistance/reading materials about coping with stress, such as test anxiety.

Reflections

Have learners interview an older family member about what subjects or circumstances give them stress during reading assembly instructions or tax forms.

32

ANALYZING YOUR DIET

ACTIVITY-AT-A-GLANCE

Purpose

Contrast the basic principles of a healthy diet to an unbalanced diet, identify sources of the six nutrient groups, and learn to effectively read labels before selecting and consuming food.

What You'll Need

☐ A letter to parents explaining the assignment

Metacognitive Opener

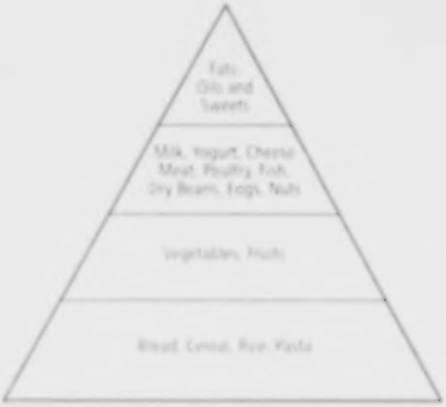
Explain that people look, feel, and think best when they eat right and get plenty of rest. Prepare students for learning and sharing some general information about good nutrition. Such things as energy level and skin condition are dependent on proper nutrition.

What to Do

1. Ask students what they think is the single most important nutrient. Explain that we can live for some time without other nutrients, but not more than a few days without water. A balanced healthful diet includes proper amounts of food from six categories. Discuss with students the Food Pyramid Guide and the U.S. Recommended Daily Allowances (see blacklines section).
2. Have students check the labels on food packaging, showing the U.S. Recommended Daily Allowances, during their next grocery shopping trip with their families.

32

Food Pyramid Guide


Fats, Oils and Sweets
Milk, Yogurt, Cheese
Meat, Poultry, Fish, Dry Beans, Eggs, Nuts
Vegetables, Fruits
Bread, Cereal, Rice, Pasta

U.S. Recommended Daily Allowances

•Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat.* Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

**Sat. = Saturated*

3. Have the learners ask their families to help them analyze their diets and plan additional ways of eating healthy.
4. Assign the learners to analyze their sleeping habits over a short piece of time. Prompt them to research and read about the needs for their age group, and think about and plan to develop new habits to keep them healthy.
5. Allow the learners to share their newly created plans for healthy eating and sleeping.
6. Have students share their plans with partners

Meeting the Needs of Diverse Learners

1. Schedule and allow the students to meet with and discuss their plans with appropriate educator.
2. Occasionally have the learners take out their plans for healthy sleeping and eating and make notes in their reading journal about the success and/or need to more closely follow the plan.
3. Have the learners create visual reminders that could be placed in their private work and sleep areas.

Reflections

Have students create a one-day balanced, healthy diet and keep track of their daily diet in a personal log.

33

HURRAHS

ACTIVITY-AT-A-GLANCE

Purpose

Explore the benefits of physical expressions of affirmation to learners.

Metacognitive Opener

Explain that, when individual students or groups of students clarify ideas or assist each other during the learning process, both the helper and the learner benefit. One of the ways learners help each other is to share affirmations or "hurrahs." A cheer or just the words "Great work!" can be considered hurrahs. A gesture accompanying this affirmation helps energize the group.

What to Do

1. Share with the learners some well-worn expressions/hurrahs such as "Bravo!" Ask some of the learners to share with the group the reaction they have when they hear a hurrah after completing a group sharing session or individual presentation.
2. Group the learners; have the groups brainstorm ideas for new types of hurrahs and prepare to share their favorite creations.
3. Ask the learners to create an illustration of the correct way to share their favorite hurrahs.
4. Discuss suggestions for additions and changes to the new visuals.
5. Allow time for all the learners to discuss the new hurrahs and fine-tune them based on the class critique sessions.
6. Display visuals of these hurrahs and include them verbally in class interactive work sessions.

33

HURRAH!

Meeting the Needs of Diverse Learners

1. Allow the learners to share the new hurrahs with another class.
2. Have your students teach the art of "hurrahing" during class assignments to younger students.

Reflections

Ask the learners to keep a log of the feelings experienced when they gave or received a "hurrah" for their work, such as feeling that they were energized.

34

FITNESS FOR LIFE

ACTIVITY-AT-A-GLANCE

Purpose

Understand the benefits of regular exercise and how regular exercise is related to health/fitness by use of two exercises—the book curl and the pogo hop.

What You'll Need

- ☐ A set of books (about the same size)
- ☐ Timer

Metacognitive Opener

Explain that exercise can help prepare students of all ages for learning in all discipline areas. Two exercises are presented here. The book curl and pogo hop help warm up students for reading, thinking, writing, listening, and speaking.

INSTRUCTIONAL TIP Use a fitness break during the middle of the day to invigorate the students, renewing their readiness for concentration during class.

What to Do

1. Ask the learners to select two books and stand one arm's length apart.
2. Tell the learners to hold a book in each hand, palm up, and to relax—balancing the books in their palms.
3. Have the students lift the books to their chest, bending each arm at the elbow, then lower their arms and repeat the exercise four times.

4. Tell the learners they've completed what's known as a book curl and then say, "Now we are going to learn the pogo hop." Have the learners place their books on the shelf, in their desks, or in another appropriate place.
5. Introduce the concept that the pogo hop, the next action, is a cardiovascular exercise (explain *cardiovascular* as needed), and ask the learners to stand.
6. Working as a group, have the learners clasp their hands behind their neck, put their right leg forward and their left leg back, then jump straight up, moving their left leg forward and right leg back. Continue jumping and changing leg positions for thirty seconds.
7. Ask the learners to write a comment on their feelings about exercising before/during/after class.

Meeting the Needs of Diverse Learners

1. Adjust activities for students with special needs.
2. Advise the learners to take fitness breaks (trying the book curl and pogo hop) during a home study session.

Reflections

Have the students talk with their parents and guardians about the exercises that they use to relax in a formal work setting. Allow them to discuss the ideas in class and demonstrate some of the exercises learned from their families.

35

WALKING TO RECYCLE

ACTIVITY-AT-A-GLANCE

Purpose

Research (through walking and observation) to generate ideas for reusing objects that would ordinarily be discarded and to prepare a report on recycling.

Working Vocabulary

recycle
the "throw-away society"
natural resources

What You'll Need

- ☐ Colored markers/pencils

Metacognitive Opener

To begin, have students observe—over two or three weeks—what is being put out as trash in their neighborhood on garbage pick-up days, identifying innovative uses for items they see being thrown away with the regular garbage. Explain that they will be brainstorming ways to recycle these items. You may want to share with the them the story of how a pig farmer came up with an interesting solution for recycling old discarded *bowling balls!*

> Pigs are smart animals, but sometimes they get bored and start to fight with one another. A pig farmer noticed this and the fact that his pigs were losing weight—not very good for their market value. So he put some old, discarded bowling

balls in their pen so they would have something to play with. Pushing and rolling the bowling balls relaxed the pigs and relieved their stress; as a result, they stopped fighting each other.

What to Do

1. If students have been unable to observe "throw-aways" as suggested in the Metacognitive Opener, arrange for a supervised field trip to have students walk around the neighborhood in the vicinity of the school on garbage pick-up day, to observe what is being thrown away, such as old bikes, toys, electronic equipment, and so on.
2. As a class, brainstorm a list of uses for the items students have seen discarded, adding items they have seen discarded in their own neighborhoods. Explore what recycling programs already exist in the community. Have students work in groups to design posters demonstrating recycling. Display these posters in a prominent place at school.
3. Explore whether some community centers and even stores in the area would agree to display the posters as a community service.

OPTIONAL TECHNOLOGY Have students search for ideas on recycling on the Internet, supervising as necessary.

Meeting the Needs of Diverse Learners

1. Give these examples of recycling to students to help with brainstorming ideas:
   - Use empty yogurt containers to start seedlings, such as tomato plants, for spring planting.

- Bring old magazines to senior centers and homeless shelters for recreational reading.

2. Allow students to work in groups to do their research and observations about recycling in their neighborhoods.
3. Guide students in a discussion of their research and readings. Mediate as needed.

Reflections

Have students ask their family members or neighbors to suggest ways for recycling, noting their comments and sharing them with the class. Invite community officials to discuss what recycling efforts are being tried in the area already.

36

LEARNING TO RELAX

ACTIVITY-AT-A-GLANCE

Purpose

Teach learners new ways to physical well-being through relaxation techniques, promoting the bodily/kinesthetic intelligence.

What You'll Need

- ☐ Relaxing music recordings

Metacognitive Opener

Ask learners to think about the last time they were relaxing at the park or beach and looked up at the clouds in the skies. Discuss how they felt and what they imagined or thought about.

What to Do

1. Arrange for a time when students can go outside on a pleasant day and observe the clouds for 15 to 20 minutes, at the teacher's discretion. Students are to be quiet and listen to pre-selected recordings of soothing music such as a piece of classical music. Remind the learners to note their thoughts and reactions as they observe the clouds, thinking about how their bodies as well as their minds react to this time.
2. Once back in the class, have the students, without talking with one another, write their reactions to this experience in a brief statement.
3. Next, have students volunteer to share their reactions and how the experience affected them. Discuss their reactions to the quiet time, the music, and the cloud watching.

TIP **INSTRUCTIONAL TIP** You may need to tailor this activity to the age and maturity level of your students.

Reflections

Have students take "quiet time" breaks at home or in a park and keep a log of these times in their journals.

SECTION SIX

INTRAPERSONAL

Intrapersonal Intelligence

. . . is the ability to form an accurate model of oneself and to use that model to carry on effectively in life. Intrapersonal intelligence is the ability to know oneself and assume responsibility for one's life and learning.

Students with strong intrapersonal skills recognize their own strengths and limitations and challenge themselves to improve. This student is goal-oriented, reflective, and sees his or her successes as a direct result of his or her own planning, efforts, and persistence.

Activities that stimulate intrapersonal intelligence in the classroom include opportunities to problem solve, use metacognition, exercise concentration, set goals, and write in personal journals. A student with intrapersonal intelligence needs independent learning time to reflect, visualize, relax, and gain self-discovery.

The intrapersonal intelligence lessons in this section offer teachers a way to use and inspire the properties of this intelligence in the classroom. These lessons will provide opportunities for learners to develop intrapersonal skills and skills of literacy through reflective, metacognitive, independent, and problem-solving activities.

37

REFLECTING ON QUESTIONS

ACTIVITY-AT-A-GLANCE

Purpose

Compose and respond to meaningful questions.

What You'll Need

☐ A teacher-selected reading selection (brief) or math problem, such as one in geometry

Metacognitive Opener

Explain that a question is something asked, a query that ordinarily calls for a response. Solicit from your students some common synonyms for the verb *question*, such as

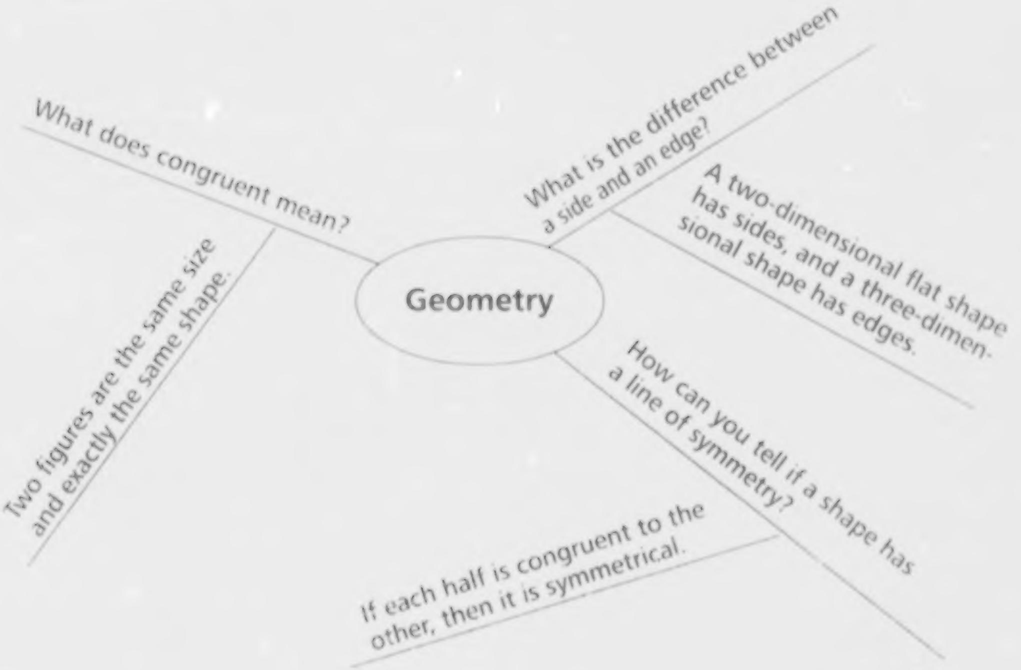
- inquire
- interrogate
- ask

Explain to students that in this activity they will be learning the art of and strategies for constructing and responding to meaningful questions.

What to Do

1. Have students privately read the same reading selection or math problem, cautioning them not to discuss the selection with anyone else. Give each learner a Think Trix Question Starters form (see blacklines section).

2. Ask learners to reflect on their reaction to the reading or math problem, then prepare a list of questions—with at least one for every category listed on the Think Trix form. Have students label each with the appropriate icon from the Think Trix form, indicating how they evaluate their own questioning strategies.
3. Have students work in pairs and invite them to share with their partners the questions they have created, critiquing the classification of those questions according to the Think Trix form.
4. Next, have students construct a graphic organizer to aid in organizing and responding to questions, as shown in the Question Web example below. Have students select three of their questions and devise their webs (see Question Web form in blacklines section) about the respective reading or math problem.


What does congruent mean?
Two figures are the same size and exactly the same shape.
What is the difference between a side and an edge?
A two-dimensional flat shape has sides, and a three-dimensional shape has edges.
Geometry
How can you tell if a shape has a line of symmetry?
If each half is congruent to the other, then it is symmetrical.

From *Active Learning for the Multiple Intelligences Classroom* by James Bellanca, 1997, IRI/SkyLight Training and Publishing.

37

Meeting the Needs of Diverse Learners

1. Ask the learners to respond to the following questions:

   What are some examples of friendship?

   What word best describes your favorite game?

   What happens when the lead in your pencil is used up?

2. Discuss with learners that the above questions and students' responses fall into the following categories, respectively

   Idea to Example

   Example to Idea

   Cause and Effect

Reflections

Lead the learners in a direct teaching of questioning and responding. Allow the learners to share their questions and respond to questions. Mediate learning and reteach the questioning and responding process as needed.

38

MIRROR, MIRROR!

ACTIVITY-AT-A-GLANCE

Purpose

Teach learners how to convey meaning through illustrations and make comparisons between objects and ideas.

Working Vocabulary

imaging
visualizing

What You'll Need

☐ Colored markers and paper

Metacognitive Opener

Ask the learners to respond to some of the following questions and be prepared to offer reasons why.

- What holiday is most like you?
- What season are you most like?
- What type of transportation is like you?

Now ask the students to sketch or draw a picture of themselves, explaining their response to one of the questions. Explain that, in the exercise above and the rest of the activity, learners are going to mirror themselves (to reflect on themselves) as they use imaging and visualizing (metacognitive) techniques.

38

What to Do

1. Write the following on the chalkboard and discuss with learners how to complete this series of comparisons:

   __________ is like a pencil because it needs someone to move it.

   A windstorm is like a __________ because it can be destructive.

   Which is more useful—a book or a video?

INSTRUCTIONAL TIP Ask each responding learner to validate/explain the response given.

2. Ask the learners to write in their journals the process they used to make the decisions. Have the learners list the steps used to make the comparisons. Prompt the learners to reflect on this cognitive process.
3. Guide the learners in a direct teaching discussion of imaging, visualizing, and reflecting. Reteach and mediate learning as needed.
4. Have the learners write their comparisons and create visuals to illustrate them.
5. Allow the students to group-share their work. Visit the group presentations and mediate learning as needed.

Meeting the Needs of Diverse Learners

Have all the learners respond to the following question:

Which is darker—night or fear?

Discuss reactions to this type of question, then ask each student to draw and/or sketch a picture to reflect on and explain personal responses to the question.

Reflections

During a quiet time at home, have the learners write in their journals the names of two colors that they think symbolize or signify the act of reflection and metacognition—thinking about thinking. Have students make notes explaining their responses, and during the next class session, allow the students time to group-share their journal writings.

39

PONDERING AMAZING FACTS

ACTIVITY-AT-A-GLANCE

Purpose

Develop learners' understanding of metacognition, as well as analyzing, classifying, and comparing information.

What You'll Need

- ☐ The book *Weird Facts to Blow Your Mind* by Judith Freeman Clark (1993, Price Stern Sloan)
- ☐ Markers/art materials

Metacognitive Opener

Share a "weird" fact with the learners, such as the following (depending on your audience): During the mummification process, ancient Egyptians removed the brains of the dead through their noses. Explain to students that they will have the opportunity in this activity to explore and ponder such interesting questions and facts.

What to Do

1. Ask the learners to open their journals and write the word *ponder.* Have them turn to a partner and discuss the meaning, words that sound like, and the thoughts that they associate with *ponder.* Have the students find the denotative meaning of the word *ponder* in a dictionary.

2. Have the learners select weird facts from collections of interesting facts, at your discretion, or prepare a list of weird facts on your own.
3. Next, have students pair off; have the partners focus on one unusual fact and write three questions about this fact in their journals.
4. Ask the students to classify their questions using the symbols on the Think Trix Question Guide form (see blacklines section), labeling the categories of the questions written in their journals.
5. Have the partners collaborate on a visual (such as a poster) to further explain their fact, writing the fact itself on the visual with a brief comment about it.
6. Post the visuals in the classroom and allow the learners to roam, read, and ponder.

OPTIONAL TECHNOLOGY Have the learners, under supervision, surf the Web for unusual facts or trivia.

Meeting the Needs of Diverse Learners

1. Lead the learners as a group through the reading, discussing, and pondering of the weird facts written and posted. Encourage conversation about imagining, visualizing, and reflecting. Mediate learning and reteach the art of pondering as needed.
2. Allow the learners to read new facts and illustrate them.
3. Ask the learners to start a collection of cross-curricular facts. Tell the students to use their fact collection to extend and enrich their interdisciplinary writing and speaking assignments.
4. Have the learners construct questions, using Think Trix Question Starters (see blacklines section), and write responses about new weird facts read and learned.

Reflections

Suggest that the learners compile and design their own personal weird facts book and note sources for their information.

40

USING METAPHORS

ACTIVITY-AT-A-GLANCE

Purpose

Understand and apply meaningful writing strategies through the use of literary patterns/metaphors.

Working Vocabulary

metaphor

What You'll Need

- ☐ Classroom library of multi-leveled reading materials

Metacognitive Opener

Introduce the concept of a *metaphor* by saying "Words are bridges that we use to reach one another." Explain that equating words with bridges in this statement is a demonstration of a metaphor—a figure of speech in which a term or terms are used to compare ideas or objects. Remember, the metaphor, unlike an analogy or simile, does not use *like* or *as* to complete the comparison. Metaphors are creative tools for all thinkers and writers, and help provide avenues for intrapersonal reflection and expression of ideas.

40

What to Do

1. Have the learners work in groups to come up with a list of metaphors from various pre-selected readings.
2. Visit the cooperative work groups and guide the learners in their search for metaphors.
3. Record some of the best examples on the chalkboard. Allow the learners to copy these examples into their journals. The copied examples could serve as a review piece for upcoming lessons.

Meeting the Needs of Diverse Learners

1. Ask the learners to brainstorm as a class for various metaphors they have heard in popular songs and commercials, such as the Simon and Garfunkel song, "I Am a Rock."
2. Allow the students to work cooperatively writing three metaphors with a full two-sentence explanation for each metaphor.
3. Read aloud from a selection of literature featuring metaphors and ask the learners to identify and explain the metaphors.

Reflections

Ask the learners to rewrite two metaphors as analogies and include in the writing a validity statement for the analogies.

41

REACTING TO HOT MUSIC

ACTIVITY-AT-A-GLANCE

Purpose

Explore personal reactions to music and identify the representation of fire in two musical compositions.

What You'll Need

- ☐ Two recordings of music (on records, audiotapes, or compact disks) associated with fire (Example: *Carmina Burana,* one of Orff's cantatas, and the *Feuer* [fire] music from Wagner's opera *Die Walküre* [the Valkyrie])
- ☐ Audiotape/CD player

INSTRUCTIONAL TIP This lesson was created and used successfully in the author's school in an interdisciplinary lesson/team teaching effort with the related-arts team members guiding the way.

Metacognitive Opener

Ask the learners to open their reading journal, think about the word *fire* and its meaning, listen to the music, and write the word *fire* each time they think of fire in response to the music. Tell the learners they will be asked to identify the instrument producing the sound and asked to represent (tap, sing) the rhythm producing the impression of fire. (See Orchestra Instruments in blacklines section.)

What to Do

1. Tell the learners the background of each selection before you play the music a second time. (*Carmina Burana*, for example, is a twentieth-century piece based on "The Roasted Swan," a thirteenth-century poem. In Wagner's opera *Die Walküre*, Wotan, the king of the Gods, punishes his daughter for disobeying him. She will be rescued only by someone who can go through fire.)
2. Have the learners reflect on and share their personal reactions to the music after they have heard it for the second time. Ask the learners to write any similarities and differences noted during the reaction-sharing time using a Venn diagram (see blacklines section). Teach and guide the learners during this discussion; explain how fire is signified in the music.
3. Group the learners into sets of two or three cooperative working groups. Assign each group a specific listening part such as rhythm, tempo, a specific instrument, etc. Now ask the learners to listen and compare the concept of fire in the two selections, writing their responses on a Venn diagram.
4. Have the learners develop an artistic presentation of fire, such as a dance, a poem, or a drawing inspired by the music.

Meeting the Needs of Diverse Learners

1. Direct, teach, and guide the learners through each step in What to Do. Show the learners pictures of the instruments used. Prompt the learners to mimic the basic sound of each of the instruments in the selected music for this lesson.
2. Have the learners share their new ideas about the similarities and differences in the fire music with partners. Ask the learners to write two similarities and two differences, if any, between their personal reactions to the selections.

Reflections

Have the learners explain in their journals their thoughts about the music that was played and their reactions to the representative artistic presentations that were shared.

SECTION SEVEN

INTERPERSONAL

Interpersonal Intelligence

. . . is the capacity to understand and interact well with others. It involves the use of verbal and nonverbal skills, collaborative abilities, conflict management, consensus building strategies, and the ability to trust, respect, lead, and motivate others to achieve a common goal.

Individuals with strong interpersonal intelligence skills prefer to work in situations where they can be social, plan cooperatively, and work with others for mutual benefit. These students would rather collaborate than work alone and show traits of empathy and good communication skills.

In the classroom, group activities such as round robin, cooperative games, and creative team projects encourage the interpersonal intelligence. Multimedia instructional approaches are also beneficial to the development of interpersonal intelligence.

The activities in this section will serve to promote and fortify interpersonal intelligence in the classroom. The following lessons give students the opportunity to practice their interpersonal or social skills as they build their literacy skills.

42

COMMUNICATING WITHOUT WORDS

ACTIVITY-AT-A-GLANCE

Purpose

Develop an understanding of and strategies in nonverbal/visual communication.

Working Vocabulary

inference
assumption

What You'll Need

- ☐ Poster board and art materials
- ☐ Comic strips with the dialogue lines/words in bubbles removed

Metacognitive Opener

Present the concept that communication can occur through visual clues and body language, including facial expression. Through nonverbal communication, individuals can convey ideas, make inferences, and draw conclusions without saying a word. Prepare students for this activity in which they will be interpreting actions and reactions from a strictly visual standpoint.

What to Do

1. Write the following words on the chalkboard:

Friendly Happy
Angry Sad

2. Have the learners, working in pairs or teams with poster board, select a word and design a scenario or visual representation that implies that feeling—such as a person smiling at another person or shaking hands for the word *friendly.* Caution students not to use words on the visual.
3. Have teams present their visuals to the class and ask which feeling/word is conveyed. Prompt students to explain how they reached their conclusions about each visual.
4. Guide the learners in a discussion about making inferences, logical conclusions, and assumptions in connection with this nonverbal communication.
5. Next, display or distribute copies of the pre-selected comic strips. Have learners write a brief summary of what is happening in the cartoon or, as an option, fill in the dialogue. Allow time for class sharing and discussion of various reactions and how students interpreted the visuals.

OPTIONAL TECHNOLOGY Have students work cooperatively to develop, edit, and produce a videotape of a short silent movie.

Meeting the Needs of Diverse Learners

1. Have students create their own cartoons or comic strips without words.
2. Display a selection of artwork and ask students to interpret what the artists communicate through the visual medium.

Reflections

Have the learners write a paragraph in their journals responding to the following question:

How can I communicate with others without words?

Invite students to share their reflections with the class.

43

THE ART OF CONVERSATION

ACTIVITY-AT-A-GLANCE

Purpose

Guide learners as they develop critical listening and speaking skills.

Working Vocabulary

rhetorical question

What You'll Need

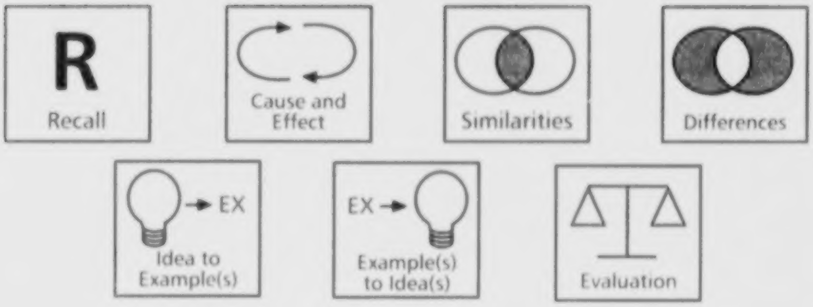
☐ Paper and art supplies

Metacognitive Opener

Explain to the learners that in this activity they will practice the art of conversation—that is, speaking and listening. They will explore strategies for developing effective explanation and questioning.

What to Do

1. Ask the learners to write in their journals one question about a general topic of interest.
2. Refer learners to the Guidelines (Criteria) for Responding to Questions (see blacklines section), then have students work in pairs to answer each other's questions.
3. Share with the students a copy of the Think Trix Question Guide (see blacklines section). Guide the partners/teams in evaluating their questions and answers by use of the icons.



4. Review the various levels, represented by the icons, on the Think Trix form, then have students create visuals of selected questions, indicating the appropriate icon using a predetermined colored marker.
5. Prompt the learners to generate their own examples of rhetorical questions (questions that answer themselves), such as "How could I have done that?!"
6. Provide a generous amount of class time for the learners to discuss the art of questioning as part of the art of conversation.

TIP **INSTRUCTIONAL TIP** Use the jigsaw cooperative learning strategy to extend this activity and develop interpersonal communication skills. Assign a different question type to each student team, have students develop a question and response, then regroup and all have teams share results with the class.

Meeting the Needs of Diverse Learners

1. Ask learners to think of situations outside of class in which talking occurred but communication did not, such as where a question was posed but there was no response or the response could not be understood. Prompt the class to review and discuss why communication was impaired in those situations.
2. Allow the learners to group-write and share examples of meaningful questions and responses.

Reflections

Invite the learners to share their reflections about the art of conversation with family members, practicing to be effective speakers and listeners at home as well as at school.

44

PLAYING WITH MULTIPLE INTELLIGENCES

ACTIVITY-AT-A-GLANCE

Purpose

Review the multiple intelligences in connection with interpersonal skills, developing game-playing and teamwork skills.

What You'll Need

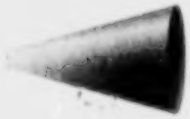
- ☐ Large poster board or other material to create a spinner dial/wheel for the game
- ☐ Colored crayons/markers/pencils, scissors
- ☐ Brass fasteners/clips/beads (for fastening a spinner arrow on the dial)

Metacognitive Opener

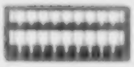
Introduce this activity as game involving chance, skill, and creativity in which students learn about their various intelligences. Display The Eight Multiple Intelligences (see blacklines section) and review the various intelligences with the class. Let the students know they will be working together as a team to explore these intelligences.

44

The Eight Multiple Intelligences


Verbal/Linguistic

Musical/Rhythmic


Mathematical/Logical

Visual/Spatial

Bodily/Kinesthetic

Intrapersonal

Interpersonal

Naturalist

What to Do

1. Review with students the various icons for the Eight Multiple Intelligences (see blacklines section) and discuss with students how they represent the intelligences. You may have students do the Reflections part of this activity at this point and follow up with a discussion.

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2. Assign learners to work in groups, ideally of eight members each. Explain that the group members will be collaborating in order to design their own spinner dial for the multiple intelligences game, cutting out a large circle and using a marker to divide the dial into eight portions that allow room for the name of each intelligence and an icon to be drawn.
3. Allow the students time to create their own icons for the multiple intelligences for their spinner dial and attach an arrow that they design using available materials.
4. After students have finished their work on the design of the spinner dial, allow them the opportunity to play the multiple intelligences game as follows: Each team member spins the dial and takes a turn at demonstrating an intelligence by pantomime. For instance, when the naturalist comes up, the student could pretend to be digging in a garden.
5. Display the various game spinner/dials in the classroom.

TIP

INSTRUCTIONAL TIP Allow a generous amount of class time for game design and actual game-playing.

Meeting the Needs of Diverse Learners

1. Create a model for the spinner dial ahead of time and assist less able students with designing and assembling the dials.
2. Play the Multiple Intelligences Game as a class, with your participation as a player.

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Reflections

Ask students to reflect on what intelligences they show by answering the following questions in their journals:

Do you like to read and write and talk?
Do you find word games fun?
Do you like to figure out answers to problems and puzzles?
Are you good with numbers?
Do you like to build, draw, and design?
Do you like to read maps?
Do you prefer music and dance to sports?
Do you understand and appreciate music, or can you make music?
Do you like to do homework by yourself or do you prefer to work with others?
Do you like being outdoors, walking in the park, and growing plants in the garden?

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DIALOGUING

ACTIVITY-AT-A-GLANCE

Purpose

Build vocabulary for listening, speaking, reading, and writing through reading literature.

Working Vocabulary

connotative
denotative

What You'll Need

- ☐ Teacher-selected short stories
- ☐ Dictionaries

Metacognitive Opener

Remind student they have the ability to visualize similar and different attributes of words, problems, and many other things. Use the following example to explain the difference between *connotative* and *denotative* in terms of word meaning.

> The denotative meaning of the word *father* is a male parent, that being the accepted "dictionary definition." The connotative meaning might be caring, fun-loving, strong, and attentive, and so on—that is, the individual reader "reads" meaning into the word *father*:

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What to Do

1. Have students write two sentences in their reading journals to demonstrate the difference in the denotative and connotative meanings for the word *dog*.
2. Allow the learners to share their responses, comparing different meanings for this word. Check for understanding. Compile all responses for class discussion.
3. Have the learners read a short story, then select and classify ten words from the story, giving the connotative and denotative meanings. Review the use of the dictionary for looking up new words, as may be necessary.
4. Have students use a graphic organizer, such as a chart, table, or mind map, to list the selected words and their meanings.

Meeting the Needs of Diverse Learners

1. Pair the learners, ideally matching an emergent student with a developmental learner, to distinguish different types of meanings for the selected words within a reading.
2. Ask the learners to think aloud and share information about new words learned. Post a list of new vocabulary words in the classroom, along with their connotative and denotative meanings.

Reflections

Ask learners to design a special symbol for denotative meaning and one for connotative meaning, and draw them on self-adhesive notes. They may use these tags as they read at home and explore word meanings for new vocabulary they encounter.

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DEBATING

ACTIVITY-AT-A-GLANCE

Purpose

Introduce learners to debating as an argumentation process involving literacy, communication, critical and creative thinking, and persuasive writing as well as interpersonal skills.

Working Vocabulary

proposition
resolution
evidence
pro
con
rebuttal

What You'll Need

☐ Lecterns or podiums (optional)

INSTRUCTIONAL TIP This activity is generally suitable for middle school–level students and above.

OPTIONAL TECHNOLOGY Audiotape or videotape classroom debates for later viewing and analysis.

Metacognitve Opener

Have students talk about political debates they have seen or heard. Have students brainstorm a proposition or resolution to debate, such as "Resolved: That students should wear uniforms at school." Explain that the debate in this activity consists of one team/speaker taking the pro (for) side of the argument and the other taking the con (against) side.

What to Do

1. Introduce students to the following steps of a debate:
    - Gathering Evidence. Each team looks for facts that support its side of the argument.
    - Planning. Team members meet to share information.
    - Practicing. Each team picks a team captain to present the team's speech.
    - Presentation. In timed speeches, each captain has one turn to present the team's points and supporting evidence or proof for their argument.
    - Rethinking. Team members huddle to consider the other side's arguments.
    - Rebuttal. In timed rebuttal speeches, each team's captain has one turn to explain the weakness of the other's arguments.
    - Judges' Decision. At the end of the debate the judges (the audience) vote or decide which team has presented its position more persuasively.

Arguments

Pro	Con

2. Have students brainstorm and record all the arguments for and against the proposition (pro/affirmative and con/negative), using the Arguments form (see blacklines).
3. Review the folowing guidelines.
    - Good speakers use a style and vocabulary their listeners will understand.
    - Good listeners are respectful, polite, and interested. Their behavior helps the speaker feel more confident.
    - Good speakers talk clearly, not too fast, and loudly enough for their listeners.
    - Good listeners pay attention. If they can't hear, they let the speaker know.
    - Good speakers use language that expresses how they feel.
    - Good speakers use slang that's familiar to the listener, but only in informal situations.
    - Good listeners listen closely before drawing conclusions.
4. Allow students to form their debate strategies.
5. Hold the debate.
6. Ask the audience to vote pro or con after the debate.

Meeting the Needs of Diverse Learners

Organize debate teams and assign roles as follows:

The Leader keeps the discussion on topic.

The Clarifier makes sure everyone understands what the speaker has said.

The Recaller summarizes what has been learned or discussed before the group decides to record something.

The Reporter shares the group's findings with others and writes down the main subjects of discussion.

Reflections

Have the learners evaluate both sides of the argument in their journal. They should note any persuasive techniques that were used.

SECTION EIGHT

NATURALIST

Naturalist Intelligence

. . . is the ability to use sensory input from nature to interpret one's environment. This intelligence enables individuals to thrive in different environs and to categorize, observe, adapt, and use natural phenomena.

Individuals with highly developed naturalist intelligence include explorers and scientists such as environmentalists, botanists, and zoologists. Equipped with an appreciation of the relationships of humans to nature, those strong in the naturalist intelligence are also knowledgeable in the areas of social studies and scientific knowledge in general.

Naturalist intelligence–inspired activities include studying, classifying, and collecting items in nature, conducting scientific experiments, and researching solutions to environmental concerns. Activities that allow students to classify plant life and study the habitats of living things also promote the naturalist intelligence.

The lessons in this section offer educators ways to stimulate and use the properties of the naturalist intelligence in the classroom. These lessons provide opportunities for learners to develop an appreciation for nature and to understand the natural world around them while polishing their literacy skills.

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FROM FRUIT TO NUTS

ACTIVITY-AT-A-GLANCE

Purpose

Categorize edible plant life (fruit, vegetables, grains, nuts, etc.) according to where the items are commonly grown in the world.

What You'll Need

- ☐ A large map of the world
- ☐ Pictures and/or actual examples of a variety of fruits and vegetables, etc.

Metacognitive Opener

Discuss with students what produce (vegetables and fruits) they have eaten during the last week and ask how they distinguish one item from another. Explain that in this activity they will be exploring the categorization of plant life common to their diets, determining in what part of the world each particular product is grown.

What to Do

1. Organize students in small groups and assign each group a specific item for exploration, such as an Idaho potato or a Granny Smith apple.

TIP **INSTRUCTIONAL TIP** If using actual products, make arrangements ahead of time with parents and the school office. Become aware of students who have food allergies and plan this activity accordingly.

2. Have students work cooperatively on categorizing their products and researching where they are grown, recording their results in preparation for an oral report. Provide time for library/Internet research.
3. Ask student groups to design icons of their products and affix them with removable tape to the wall map, indicating an area where the examples of plant life are grown.
4. Have students present their findings and research.
5. If feasible, have an after-presentation celebration where selected fruits and vegetables may be sampled, making arrangements as necessary.

Meeting the Needs of Diverse Learners

1. Talk with learners about how diets differ within our own country as well as around the world.
2. Discuss differences in regard to the plant life that becomes part of a typical diet, depending on where someone lives. Discuss various examples of produce and connect them to places of origin. Have students design a table or chart listing four pre-selected states in the U.S. and a product grown in each state.

Model Chart

Georgia	Idaho	Hawaii	Iowa
peach	potato	pineapple	corn

Reflections

Have students explore the variety of produce on their next shopping trip to the supermarket with their families, noting which items are imported. Prompt them to look for identifying stickers commonly found on produce in today's stores. Have them record information on five items in the produce section they were not familiar with previously.

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POETRY IN NATURE

ACTIVITY-AT-A-GLANCE

Purpose

Select a scene in nature and respond to it by writing a particular type of sequenced/patterned poem, a cinquain.

Working Vocabulary

cinquain

What You'll Need

☐ Various scenes of nature (photographs/pictures to display in the classroom)
☐ Art materials for designing poem posters and collages

Metacognitive Opener

Explain that in this lesson students will examine patterns in nature and in writing. Prepare students to write a cinquain, a five-line poem—a verse form invented by early twentieth-century poet Adelaide Crapsey. Acquaint students with the Guidelines and Model for Writing Cinquains (see blacklines). As a preliminary step for this activity, you may also bring in other cinquains to present to students and write one yourself as another sample to explore with students.

What to Do

1. Confirm that all students fully understand the guidelines for writing cinquains. Remind students what constitutes a syllable, as need be.

2. Have students select an image from nature, either one on display in the classroom or one of their own choosing.
3. Have each student write a cinquain.
4. Structure a group sharing and discussion time for the learners to peer edit and revise/refine their poems as their discretion, making sure the guidelines are met and meaning is clear.
5. Allow time for the learners to create small posters featuring their cinquains, including titles and bylines, and group the posters as a display around the scenes from nature, creating a gallery you may refer to as Poetry in Nature. Consider inviting parents/family members and other classes to take a gallery walk in your class.

Guidelines and Model for Writing Cinquains

Cinquain—a five-line poem written in the following form:
Line 1—Two syllables
Line 2—Four syllables
Line 3—Six syllables
Line 4—Eight syllables
Line 5—Two syllables

Example

These are
three silent things
the falling snow . . . the time
before the dawn . . . the idea
not said.

Meeting the Needs of Diverse Learners

1. Have students work in pairs and collaborate on writing their first cinquains about a selected scene from nature. One student may write one line, then another student may write another, and so on. Have students read their poems aloud.

2. Have students create collages representing selected poems and nature scenes.

Reflections

Suggest students take nature walks on weekends and after school, recording their observations of nature scenes and their reflections in their journals. Have the learners use these reflections as a basis for other projects, perhaps exploring other poetic forms, such as the haiku, the sonnet, or free verse.

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SORTING OUT SOUNDS

ACTIVITY-AT-A-GLANCE

Purpose

Integrate musical/rhythmic and visual/spatial intelligences to identify and classify various sounds in the natural world.

What You'll Need

- ☐ Subject-related classroom library of reading materials
- ☐ Recordings of sounds from nature
- ☐ Tape/CD player

Metacognitive Opener

Prepare the learners to use the Guidelines (Criteria) for Responding to Questions (see blacklines) as part of the question and response reading strategy to complete this activity. Remind students that this question and response strategy, as used previously, is simply the act of listing or posing questions and responding to those questions after reading, researching, and discussing the materials read.

What To Do

1. Write the following questions on the chalkboard and have students react to them as a class. Allow students time to think about and research answers to those questions as need be:

   Why is a cricket like a violin?

   How do mosquitoes hum?

What is the world's loudest insect?
How do deathwatch beetles attract a mate?
How does a river sound different than an ocean?
What comes first during a storm—lightning or thunder?

2. Have students create a graphic organizer, such as a Question Web (see blacklines), so they may record the questions and their responses.
3. After students have completed their organizers, discuss various responses as a class.
4. Play a recording of sounds in nature and have students create further questions for exploration.
5. Allow the learners to use the pre-selected classroom library to research, read, and write the responses to the questions posed. Allow the learners to group-share their work.

Meeting the Needs of Diverse Learners

1. Have the learners prepare a presentation in which they name, share pictures of, and imitate the sounds mentioned in the questions above.
2. Share with learners the names of three additional sound-producing insects. The names of the insects shared should be common to the environment and geographic location of the school and home communities. Have students search out those sounds and report results to the class at a later time, depending on the season.

Reflections

Have student keep a log in their journals of all the different sounds in nature they hear over a week's time. Later, assign students to create a poem or short composition about their experiences.

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RESEARCHING A NATURALIST'S WORK

ACTIVITY-AT-A-GLANCE

Purpose

Study a famous naturalist and his or her contributions to science and society.

Working Vocabulary

agricultural chemist

What You'll Need

- ☐ Teacher-selected readings/resources about George Washington Carver
- ☐ Audiotapes/videotapes about his work (optional)

Metacognitive Opener

Prepare the learners for researching George Washington Carver, an innovative African-American agricultural chemist or plant doctor who was—by definition—a naturalist. Ask students to look for the answer to the following question as they research: What popular and natural snack food is connected to the work of Carver? [peanuts]

TIP **INSTRUCTIONAL TIP** This activity focuses on the work of one naturalist, George Washington Carver, but the activity may be adapted to address the work of others such as Charles Darwin and John J. Audubon or of contemporary scientists (zoologists, anthropologists, environmental scientists), such as Jane Goodall or Sally J. Cole.

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What to Do

1. Have the learners begin their research on George Washington Carver. Allow time for work in the media resource center/library if preselected resources are not in the classroom.
2. Assign students to write two questions and responses for each piece of research/reading they encounter as preliminary note-taking. Provide a generous amount of class time for the learners to read materials and record questions and answers about Carver.
3. Have the learners write a two-paragraph summary of the information they learned at the close of the reading/research period.
4. Allow an opportunity for learners to read and discuss their findings. Prompt students to mention peanuts in connection with Carver if they haven't already.

Meeting the Needs of Diverse Learners

1. After students have researched, group them in pairs and stage mock interviews with the famous naturalist, with one student acting as "journalist" and one as Carver. Allow time for students to write questions and rehearse ahead of time.
2. Invite an environmental scientist, a botanist, or another scientist, from the local or regional nature center or a local university to speak to your class about their work and careers in the natural sciences. Allow time for students to generate questions for the speaker. Prepare the class accordingly.

OPTIONAL TECHNOLOGY Videotape the mock interviews or the interviews with the community naturalists for further discussion and reviewing.

Reflections

Have students explore Carver's contribution to the plastics industry and write about the connection between nature and chemistry.

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LEAVES AS A CLASS ACT

ACTIVITY-AT-A-GLANCE

Purpose

Classify leaves from various trees and learn about the concept of *species*, using critical thinking, powers of observation, communication, and organization skills to sort and present data.

Working Vocabulary

species

What You'll Need

☐ Leaves (various specimens)
☐ Waxed paper, iron
☐ Ironing board

Metacognitive Opener

Write the word *leaf* on the chalkboard. Ask students to define it, then guide the discussion so the fact emerges that there are many different leaves from many different species (types) of trees, even in one community.

What to Do

1. Have students collect different looking leaves over a period of a few days. Recommend that students draw representations of the trees from which they gather their specimens as part of visual record keeping.

2. To keep the leaves from drying up and curling, you may iron each specimen between two pieces of waxed paper. If you are not doing this yourself, make sure there are adults who will be supervising younger students with the use of an iron—at home or at school, as the case may be.
3. Direct each student to select two different specimens and guide them as they study the specimens. On paper, have them list various features (color, shape, number of points, formation of veins, and so on) for each leaf, sorting their information accordingly.
4. Next, have students use a graphic organizer, such as a Venn diagram (see blacklines), and list key features of each of their two leaves, indicating which characteristics the two leaves share.
5. As the final product, have students display their leaves, drawings of trees, and Venn diagrams. Do a nature walk in the classroom as a conclusion.

Meeting the Needs of Diverse Learners

1. Assist students with the collection of leaves as need be. Depending on the time of year and your locality, you may have students research why leaves turn to different colors and drop off trees.
2. Present the concept of a *genus* as a comprehensive class of individuals (such as oak) and *species* (such as white oak) as a subgroup of the genus.
3. Have students work in cooperative teams in this project.

Reflections

Offer students opportunities to transfer learning, applying gathering and classification techniques to other plant life, pictures of various animals, and so on.

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Reading Strategies: A Checklist for Success

Before you read . . .

- Determine what you want to be able to do.
- Skim to find out how the author has chosen to present the material.
- Determine if the directions are organized in a way that would be easy for you to follow.

As you read . . .

- Read all of the directions once to get a general sense of the task you are being asked to perform.
- Read the materials again to learn the specific directions.
- Pause after each direction you read, and make a picture in your mind of what you are supposed to do.
- Pay close attention to the illustrations or diagrams the author has provided. Do they reflect the directions accurately?
- Summarize each direction on paper in your own words, or highlight key words in the directions.
- When you come to something important that you don't understand, try rereading it, or ask someone else for help if you can.
- Use resources such as a dictionary to look up important words that you don't understand.
- Think ahead about any difficulty you might have in being able to perform the task.

After you read . . .

- Review your summary of the directions by comparing them to the original materials.
- Revise your ideas as necessary.
- Decide if you would be able to perform the task as written.

Adapted from *Strategies for Teaching Reading* by permission of H. T. Walker, Howard County Public Schools (Maryland).

Literary Devices

Point of view is the voice of the story. In the first-person point of view, the story is told by one story character, using "I". In third-person point of view, the story is told by a character outside the story, using "he", "she", or "they."

Flashback sends you back to an earlier event. The writer may use words or phrases such as "I remember when" or "a few years earlier."

Figurative language builds comparisons and creates special effects that help you understand characters, places, and ideas; examples include simile, metaphors, and personification.

Mood is the feeling or atmosphere you get from the story. It may be peaceful, scary, gloomy, funny, weird, or sad.

Symbolism is the use of an object to represent an idea or feeling, such as a raven to represent death or a dove to stand for peace.

Sensory language helps you to share sights, sounds, and other sense experiences with the characters.

Foreshadowing is a clue that may create suspense by hinting at things to come.

Characterization is the description of a character's looks, behavior, speech, motives, emotions, and personality.

Think Trix Question Guide

R Recall	Cause and Effect	Similarities	Differences	→ EX Idea to Example(s)	EX → Example(s) to Idea(s)	Evaluation

R
Recall

Recall
facts, plot design, sequence, detail, summary

Cause and Effect

Cause and Effect
cause, effect/result, motive, consequence, inference, prediction, hypothesis

Similarities

Similarities
analogy, comparison, intersection, common element

Differences

Difference
contrast, comparison, distinction, discrimination, differentiation

→ EX
Idea to Example(s)

Idea to Example(s)
categorization, deduction, substantiation, analogy, support

EX →
Example(s) to Idea(s)

Example(s) to Idea(s)
classification, induction, conclusion, generalization, finding essence

Evaluation

Evaluation
ethical consideration, evaluation, judgment, rating, weighing evidence

Adapted by permission from "Think Trix" by F. T. Lyman, Jr., 1987, as published in *Reading Issues and Practices, Yearbook of the State of Maryland.*

Think Trix Question Starters

R Recall | Cause and Effect | Similarities | Differences | → EX Idea to Example(s) | EX → Example(s) to Idea(s) | Evaluation

Recall question starters

Who is . . . ?
How did . . . ?
How many did . . . ?
Where did . . . ?
What did . . . ?
What is . . . ?
When did . . . ?
Which is . . . ?

Cause and effect question starters

What caused . . . ?
What are the effects of . . . ?
Why did . . . ?
How did . . . effect . . . ?
If . . . , did . . . ?

Difference question starters

What are the differences between . . . and . . . ?
How is . . . different from . . . ?

Similarities question starters

How are . . . and . . . alike?
How was . . . the same as . . . ?
What is the same about . . . and . . . ?
Compare . . . to . . .
Name . . . who was similar to . . . ?
. . . and . . . are alike in what way?

Adapted by permission from "Think Trix" by F. T. Lyman, Jr., 1987, as published in *Reading Issues and Practices, Yearbook of the State of Maryland.*

Picture This

Write your responses to the story in your reading journal.

1. Exposition: Setting and Characters
    a. Whose voice is speaking and what seems to be the character's (characters') attitude(s)?
    b. Describe the title in three or four sentences. Explain your responses.

2. Rising Action: Story Problem
    a. Name the story problem.
    b. Why do you think the particular problem you've named is the critical one to the story?

3. Climax: Story's Turning Point
    a. What's going on during the climax of the story?
    b. How are characters striving to resolve their problems?

4. Falling Action: The story's highs and lows as the problem is attacked
    a. What thoughts and feelings do the story words and images give you?
    b. How believable are the character's or characters' words and actions?

5. Resolution: Problem may or may not be solved
    a. What is the theme of the narrative?
    b. Reflect on the theme and resolution of the story. How is the story's main message or theme similar to or different from one of your personal experiences?

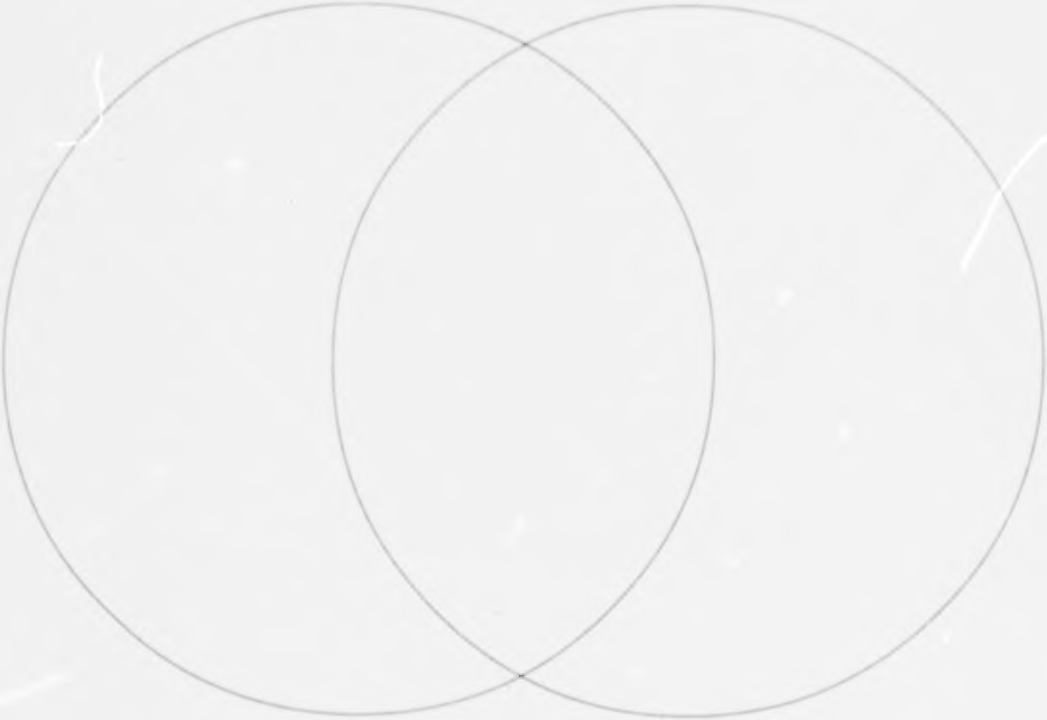
6. Optional: Illustrate a scene from the story.

Why Keep a Reading Journal?

A journal can be

- A place for learners to write down their personal reading responses to a textbook assignment, a group discussion, independent research, and media presentations, as well as a place for homework assignments and reflections on reading.
- A source book or collection of ideas, thoughts, and opinions.
- A place to write questions to yourself; log answers as they come to you; dream, imagine, or visualize.
- A place in which to record observations and questions about materials read, written, viewed, or discussed.
- A record-keeping tool that can help learners keep track of what and how much was read on a given topic, as well as personal reactions to those readings.
- A reference file to help teacher and student monitor the learner's individual growth and development.
- A way for learners to "dialogue" in written form with their teachers and peers.

Venn Diagram



Guidelines (Criteria) for Responding to Questions

Restate the question.

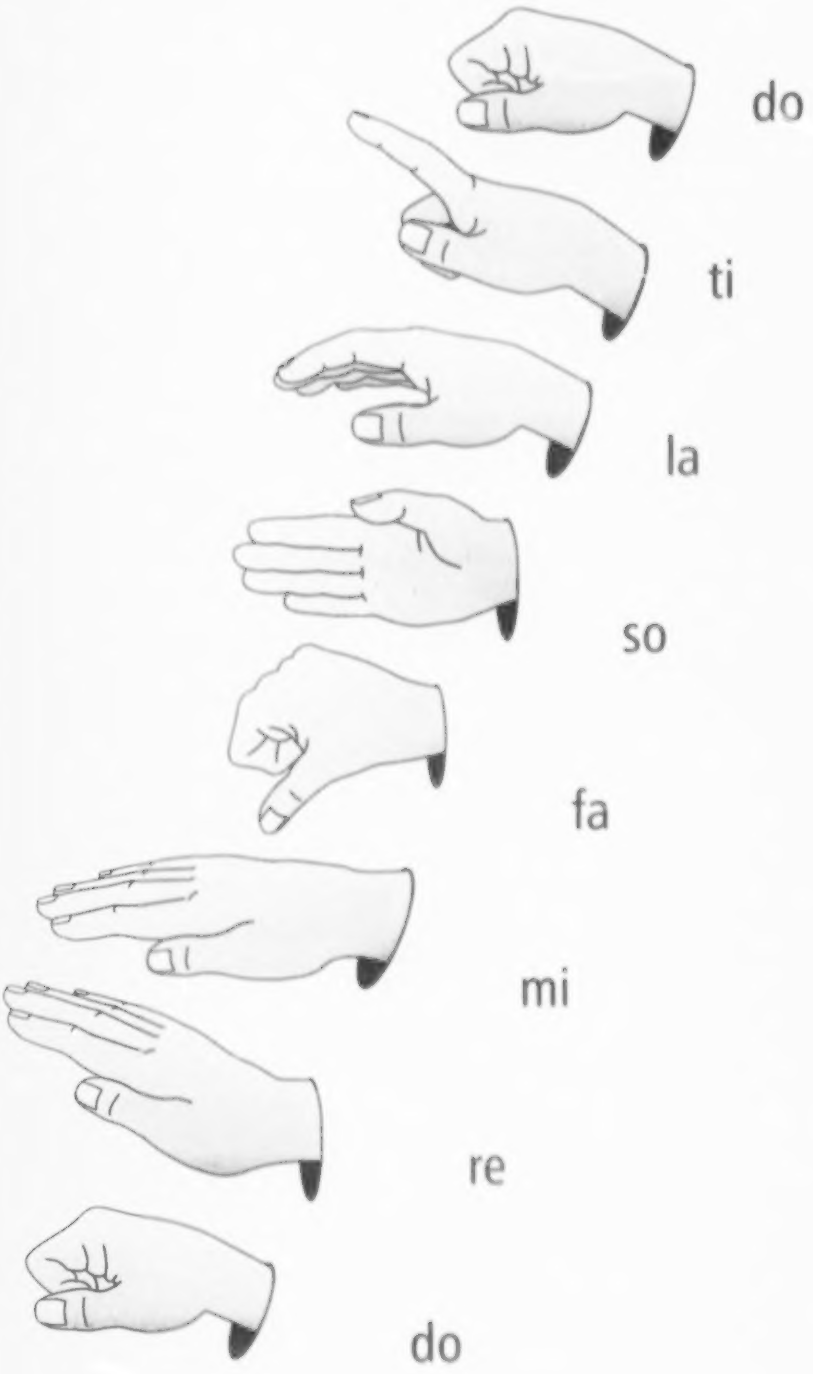
Respond to all parts of the question.

Give specific and correct support.

Answer in complete sentences.

Orchestra Instruments

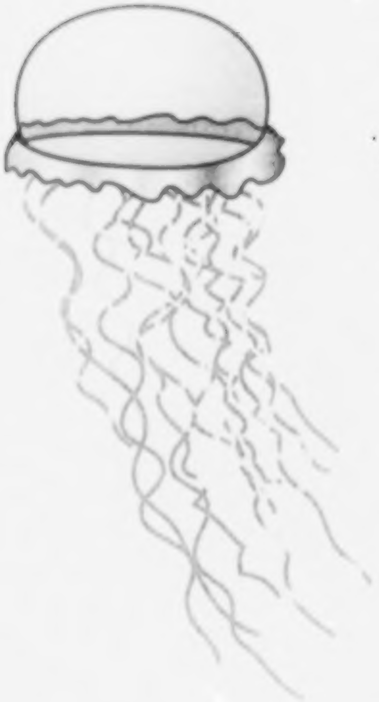
Kodály Method Hand Signals



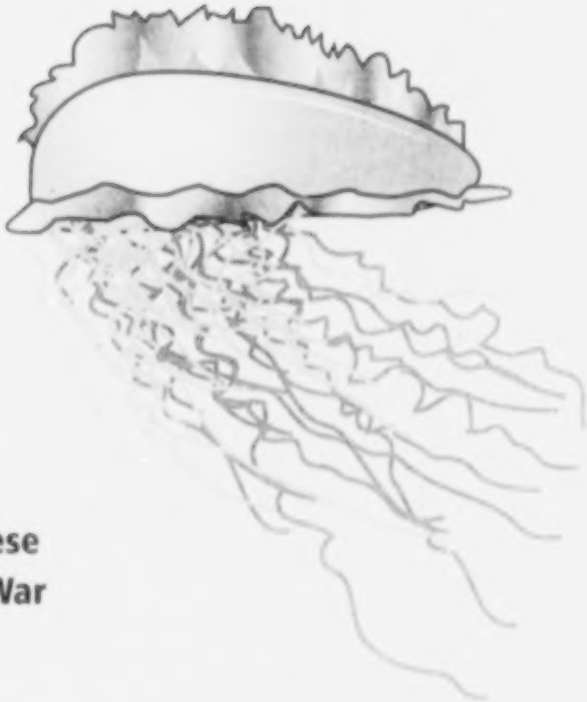
Conversion Chart for Roman Numerals

Arabic	Roman	Arabic	Roman	Arabic	Roman
0		19	XIX	90	XC
1	I	20	XX	100	C
2	II	21	XXI	101	CI
3	III	22	XXII	102	CII
4	IV	23	XXIII	200	CC
5	V	24	XXIV	300	CCC
6	VI	25	XXV	400	CD
7	VII	26	XXVI	500	D
8	VIII	27	XXVII	600	DC
9	IX	28	XXVIII	700	DCC
10	X	29	XXIX	800	DCCC
11	XI	30	XXX	900	CM
12	XII	31	XXXI	1,000	M
13	XIII	32	XXXII	2,000	MM
14	XIV	40	XL	5,000	$\overline{V}$
15	XV	50	L	10,000	$\overline{X}$
16	XVI	60	LX	100,000	$\overline{C}$
17	XVII	70	LXX	500,000	$\overline{D}$
18	XVIII	80	LXXX	1,000,000	$\overline{M}$

Jellyfish and Portuguese Man-of-War



Jellyfish



Portuguese
Man-of-War

Key Developments in Computers

- 1944 Mark I was an early computer built by IBM at Harvard University. It was little more than a huge adding machine: fifty-five feet long, one million parts, and 500 miles of wire. Mark I could complete two additions a second. By 1944 standards, today's calculators would be considered computers.

- 1945 Electronic computer invented.

- 1946 The first-generation computer ENIAC (Electronic Numerical Integrator and Computer) was built. It was faster than Mark I. It had 8,000 vacuum tubes, 20 compartments, and the whole computer could complete a 1,000,000 additions a second.

- 1970 Microcomputers/personal computers were introduced, made possible by their tiny circuit boards (chips), which brought down the size and price of computers and increased their availablity. Personal computers could at this point complete 100 million additions a second.

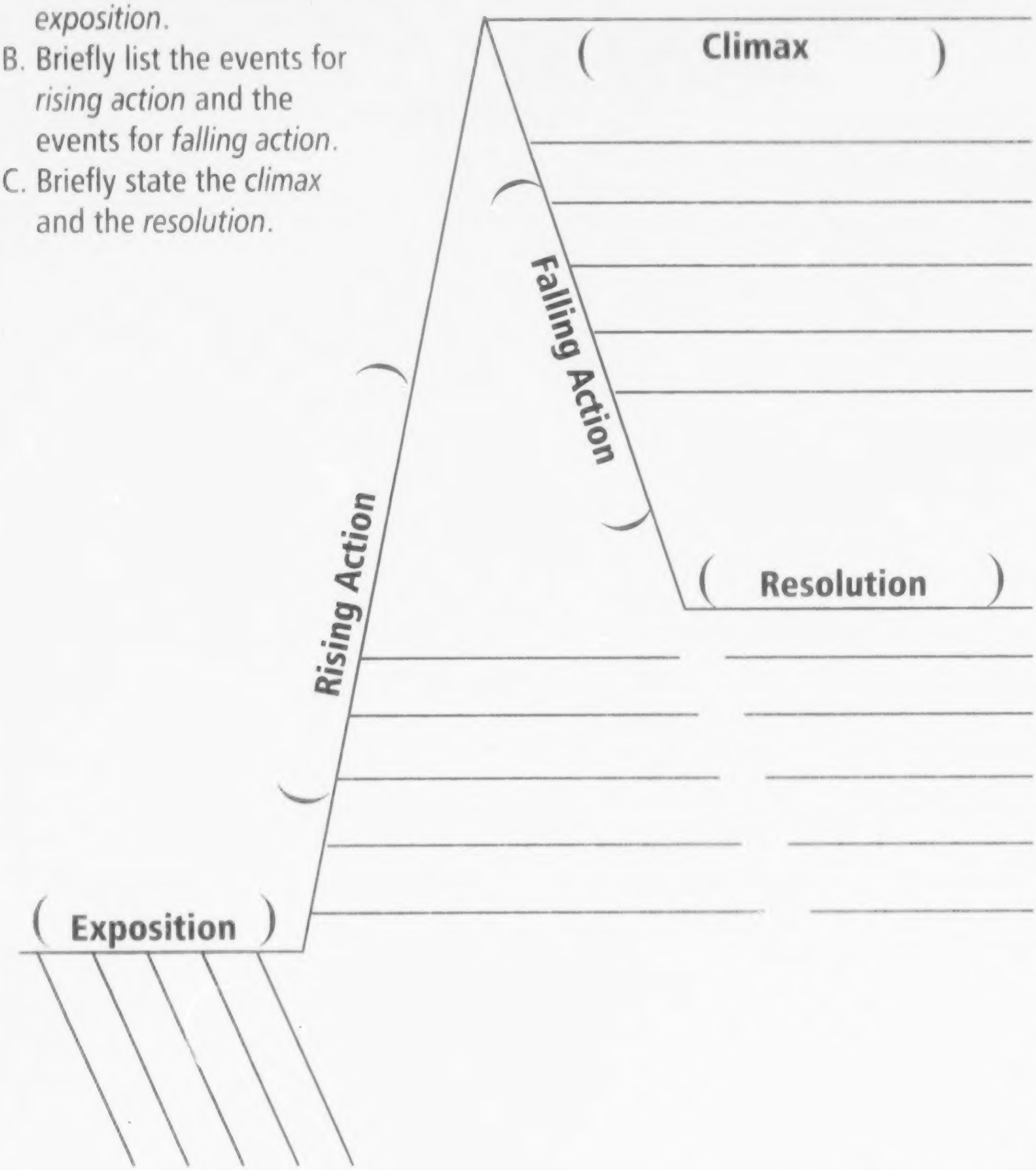
- 1990s The Information Revolution linked people around the world. Through the Internet, a worldwide computer network, someone can instantly send and receive messages, sounds, and pictures to someone else on the other side of the planet.

Plot Diagram

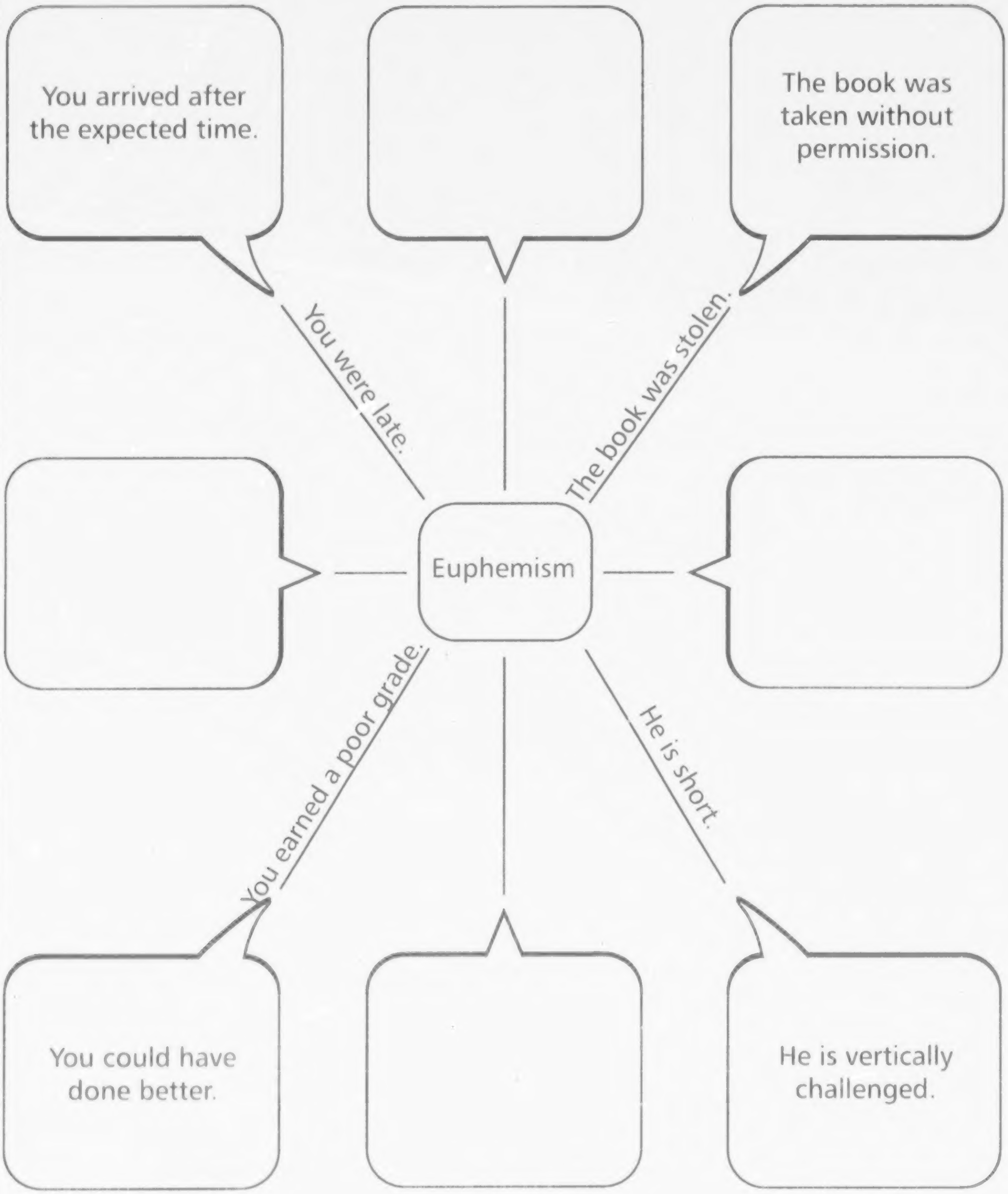
Title of story ____

Review and diagram the plot using this format to do the following:

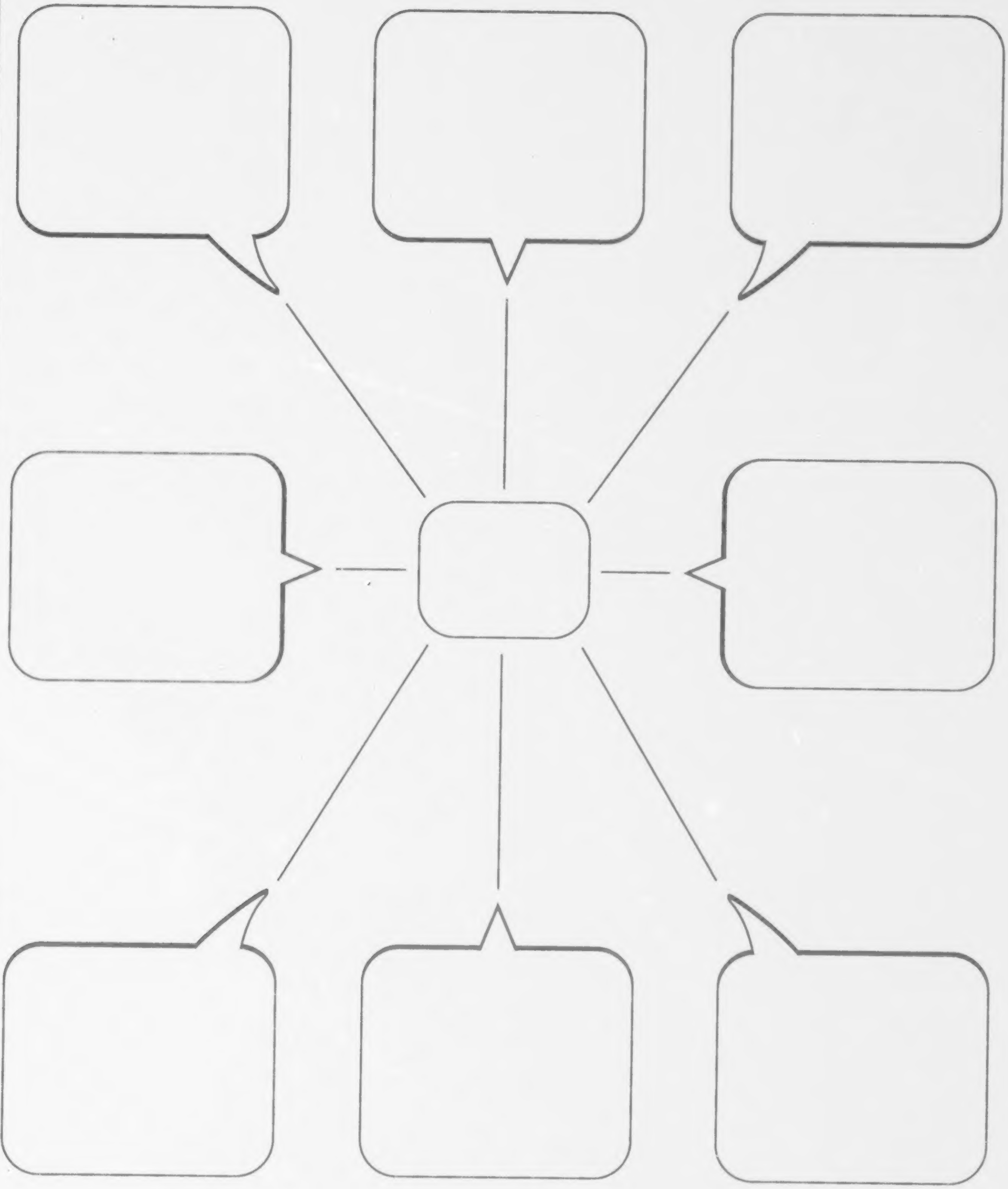
A. Supply a few details of the *exposition*.
B. Briefly list the events for *rising action* and the events for *falling action*.
C. Briefly state the *climax* and the *resolution*.



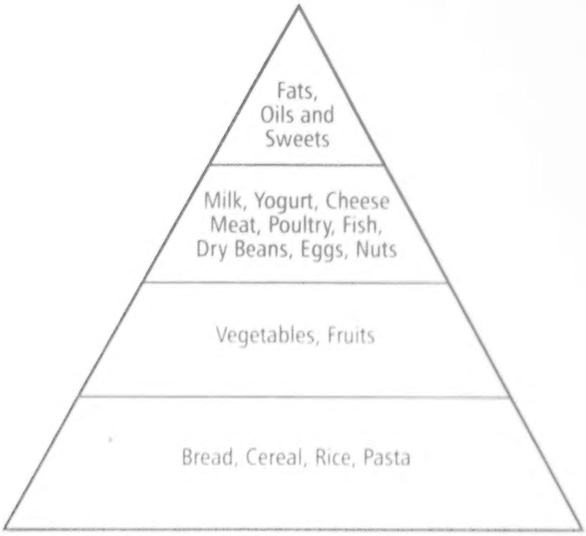
Completed Cluster Map


You arrived after the expected time.
The book was taken without permission.
You were late.
The book was stolen.
Euphemism
You earned a poor grade.
He is short.
You could have done better.
He is vertically challenged.

Cluster Map



Food Pyramid and U.S. Recommended Daily Allowances


Fats, Oils and Sweets
Milk, Yogurt, Cheese Meat, Poultry, Fish, Dry Beans, Eggs, Nuts
Vegetables, Fruits
Bread, Cereal, Rice, Pasta

- Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:

	Calories	2,000	2,500
Total Fat	Less than	65g	80g
Sat.* Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

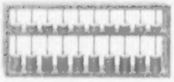
**Sat. = Saturated*

Question Web

The Eight Multiple Intelligences

Verbal/Linguistic

Musical/Rhythmic


Mathematical/Logical

Visual/Spatial

Bodily/Kinesthetic

Intrapersonal

Interpersonal

Naturalist

Arguments

Pro	Con

Guidelines and Model for Writing Cinquains

Cinquain—a five-line poem written in the following form:

Line 1—Two syllables
Line 2—Four syllables
Line 3—Six syllables
Line 4—Eight syllables
Line 5—Two syllables

Example

These are
three silent things
the falling snow . . . the time
before the dawn . . . the idea
not said.

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There are
one-story intellects,
two-story intellects, and three-story
intellects with skylights. All fact collectors, who
have no aim beyond their facts, are one-story men. Two-story men
compare, reason, generalize, using the labors of the fact collectors as
well as their own. Three-story men idealize, imagine,
predict—their best illumination comes from
above, through the skylight.
—Oliver Wendell
Holmes

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Evelyn has been a teacher trainer, coordinator of a cognitive studies center, reading specialist, and curriculum writer. She has also served on the executive board of a national board of education.

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